NATIONAL TRANSPORTATION SAFETY BOARD
VERBATIM TRANSCRIPT OF INTERVIEW WITH

CAPT ROBERT L. BRANDHUBER, USN

CONDUCTED AT COMMANDER, SUBMARINE SQUADRON 1 CONFERENCE ROOM, 822 CLARK STREET, BUILDING 661, PEARL HARBOR, HAWII

ON 18 FEBRUARY 2001

MR. TOM ROFF-ROFFY: The time is now 1046. The date is the 18th of February 2001. We are here to interview CAPT Brandhuber. Good morning sir.

WIT: Good morning.

MR. ROFF-ROFFY: My name is Tom Roth-Roffy and I am an accident investigator with the National Transportation Safety Board. And I and several other investigators are here to the investigate the accident that occurred between the USS GREENEVILLE and the fishing vessel EHIME MARU that occurred on the 9TH of February 2001. For your information, the National Transportation Safety Board is an independent Federal Agency, responsible for investigating transportation accidents in the United States. Purpose of our investigation, is to determine the cause of transportation accidents. Umm, and to make recommendations to prevent the reoccurrence of similar accidents. Our investigation is not to determine blame, determine blame, or to - - or determine legal matters. Strictly a safety investigation. Also joining me in the interview will be members from the United States Coast Guard and United States Navy. I would like now for them to introduce themselves.

MR. WOODY: Good morning, Bill Woody, NTSB.

WIT: Good morning Bill.

MR. STRAUCH: Barry Strauch, NTSB.

WIT: Good morning.

LT(jg) KUSANO: Good morning sir. LT(jg) Kusano, United States Coast Guard.

WIT: Good morning, LT.

LT JOHNSON: Good morning CAPT. LT Charlie Johnson, United States Coast Guard.

WIT: Good morning Charlie.

LCDR SANTOMAURO: LCDR Rick Santomauro, SUBPAC EMO.

CDR CACCIVIO: This is CDR Caccivio, United States Navy.

MR. ROFF-ROFFY: CAPT Brandhuber I understand that you were on the USS GREENEVILLE at the time of the accident? At the collision that occurred on February 9th.

WIT: Yes, I was.

MR. ROFF-ROFFY: Sir, could you please recount in a narrative fashion ah, your observations to the time that you came onboard the submarine until a after to the collision, including the search and rescue efforts. Please give as much detail as you can ah, and I would like you to proceed from start to finish without interruption.

WIT: Good morning gentleman, thank you. And ah, first of all before I begin I would want to make sure that people understand that ah, the tragedy that has occurred is just that a tragedy. I feel extremely sorry for the families involved whether it be the Japanese families or the crew member's families of the USS GREENEVILLE, or whether it be the extended submarine families, I apologize to all of you for having to take your time to be here ah, to do this ah, I just wish we were under different circumstances, but the facts are the facts and we have to go from there. Ah, I hope all of us have taken some time to say some prayers for the folks that are involved whether it be the family of people that lost their lives or people that have been involved throughout this process and are going to be continuing involved. It is a tragic situation and one that I wish, that all of us wish hadn't occurred. Having said that, ah there is a couple of reasons that I was onboard the submarine that I think are ah, pertinent to my situation. Ah, I am the Chief of Staff Officer for the Commander Submarine Forces, U.S. Pacific Fleet. I have, I think, I know that I have provided my bio to my folks, I don't know if you have seen it or not, but it would show that I have had some submarine experience - - - -

MR. ROTH-ROFFY: Yes we have.

WIT: And ah, I ah, chose to ride GREENEVILLE that day for the following reasons. One was, that a former CINC had made a request to ah, my boss, Commander Submarine Forces, Pacific, to escort these folks, ah I am using escort as a term. To see if we could arrange a visit for these civilians ah, and we do that routinely and ah, because the request was made by the former CINC ah, determined in my mind, usually if we have that level, there would be OOA or congressional or media or someone of that level of visitors that we always try to put someone on the submarine who has ah, a little bit broader prospective of the submarine force and the submarine issues. Ah, before ah, the commanding officer. So ah, I felt that we had ah, history of precedent of doing that and decided to ah, go ahead and ah, accompany from that prospective. Secondly, I had ah, never been onboard GREENEVILLE underway before. I try periodically to ride submarines throughout the Pacific, just recently a couple of weeks ago I was on USS GEORGIA and I try to assess the state of readiness and training, and morale of the crew and ah, all factors relating to submarine safety and marine operations. And ah, I do that by ah, by trying to get onboard as much as I can consisted with the duties that I have. And so it was a good opportunity to see the good ship GREENEVILLE in operation. The Captain had quite a professional reputation shore side. And ah, a very gregarious outgoing individual and the ship had a very good professional reputation from rumor. It is always good to put the experienced guys on target, so to speak. So I, seemed like an opportunity to ah, to do that. Thirdly, through a unique set of circumstances unbeknownst to individuals not in the United States Navy, the engineer officer of that ship is my son-in-law and he is getting close to the end of his tour and I have maintained a professional distance to allow him to grow and to allow not to have any perception of impropriety and I, since he was supposed to have been relieved here on the 21st or 22nd of February, it was my last opportunity to have to kind of kick the tires myself, not interfering but just to make sure that I seeing what was going on. So I saw that as an opportunity and these are in priority order, in distinct priority order, I would like to add that. And fourthly, I could stand a little bit of ride time. You get a little bit older in the submarine business they give you an opportunity to be in the submarine service and if you maintain so many hours a month of ride time, you can maintain to get your submarine pay. So, the first two were the critical issues, the third and the fourth just to be accurate with those considerations. So with that in mind, Admiral Konetzni was out of town and ah, and ah, with him being out of town, that places additional responsibilities and burdens, not burdens, burdens is a poor term, responsibilities on ah, the job

is a great job and I love it. Additional responsibilities on me. Ah, and so you make a conscious decision that morning as to whether or not that day allows you to take that type of time and make sure that there isn't anything else that appears to be brewing and ah, I made a conscious decision that morning that I was going to go ahead and go. So, I got the car and went over to the ah, brow and about that time I arrived almost simultaneously with the guests arriving. I made a short presentation for the guests. The COB and the XO were topside shortly after I made a short presentation and then the Commanding Officer came out ah and we welcomed the guests onboard and went down on the GREENEVILLE. Ah, the GREENEVILLE got underway on time, you know a mark of a professional organization, they didn't appeared to be rushed in doing that, well organized. And ah, prepared as soon as the guests walked across; the brow was lifted, phones were removed, and the ship got underway, similar to professional organizations that I have seen done before. Ah, the ah, the guests and crew were invited into the ah, or portions of the crew were ah, and guests were invited into the mess decks area. I stayed with the guests for a good period of time. I did not observe from the bridge or from the control room the underway of the submarine. Ah, again this commanding officer has been in charge of this submarine for two years; he has numerous landings and underways unassisted by the representative from the force commanders and this is well within his purview and capability to do this and ah, and ah, I just concentrated more on my appearance, on how the guests were being handled, making sure there was no interpretation there and as I always do, stopping by the mess decks and seeing how the mess cooks and the sailors are doing. What they are putting on for chow and things of that nature and checking on those types of things. So the guests were divided into groups after the indoctrination. They were ah, taken to various places throughout the ship and including the control room and out to the bridge. During the course of the morning, I monitored those evolutions and seeing those and also took some time to, as I always do, to walk the ship, I also had a thermal illusive TLD, which I always take onboard, which always me because of my job to have access to engineering. I just walked back to the engineering spaces, walked around there, walked around the ship, talked to sailors, talked to the officers; thanked them for their participation today in advance for what they were, for the time that they were donating for today for doing this and saw how things were on GREENEVILLE which was one of the things that I was interested in doing. Ah, if memory serves me, we were ah, at the ah, at the dive point, I did not witness the ship dive, again it is ah, a common occurrence by the ship done frequently

with absolutely no supervisor other from the commanding officer, and I use supervision as a poor term to. I don't want to be, you know that you are on there, but you are not supervising the operation of the commanding officer. The commanding officer is the commanding officer, but if there was something that would cause you untoward concerns or thoughts, it would obviously if you get the opportunity to approach in the manner to speak with the commanding officer, but he and I paths did not cross much that morning ah, he invited me to lunch with the guests, the first lunch, and I sat down with him at lunch and had lunch with the group of guests and at that time I remember clearly that the ship proceeded to test depth during that time frame. That was one of the things that was being done that day, to demonstrate the full capabilities of the ship and it is part of one of the, one of the ah, things that you do for people to ah, have them get a picture or understanding of what we do in the submarine business. I remember the discussions on how the hull compresses, if you stretch the line across the torpedo room would be, the line would be at the periscope depth, I mean the line would be taut at the surface depth and at the test depth the line would have considerable slack in it. And discussions with I think, each a, each a, visitor was given a cup similar to a Styrofoam cup and asked to put their name on it and same saying and somewhere or another it was place into the torpedo tubes so that it becomes contracted at test depth and then given to them upon leaving so that they would have that memory and if would probably check, although under the tragic situation there is, but if you would probably check those people's cups are probably office desk memento's and would be something that they would keep with them the rest of their lives to remember that day on that thing. I think that is an important point that needs to be said, I don't think that it impacts on the safety exactly, but this is routinely done, we have done this routinely. The many ships of the force have done this and it is ah, a way that we ah, try to ah show the public how ah, how hard that their sailors and officers are working. And what they are doing. And do that in a way that doesn't compromise the safety or security of the ship vessels doing that. And in all honesty, I think that there is ah, it certainly isn't a discouragement of it, I think that there is actually an encouragement of it, by other members of the Department of the Navy and Defense, my opinion. Ah, anyway we went through lunch, had a nice session, talked about things. Ah, Scott Waddle, the commanding officer, was at the lunch and in fact spent a lot of time explaining the ah, submarine operations, the importance of his crew, how proud he was to be their commanding officer and what being a submariner is all about to these folks and ah, several those of

you that have been underway or know this, he is the captain, so calls to the captain, you know he was attentive to his duties, he wasn't distracted in any way. The phone rang in the mess deck, I mean on the wardroom phone, he would pick it up and get the acknowledgement from the officer of the deck and then make statements about what was going on. So I in no way sense or form did I sense that he was not being attentive to his duties or being, or that the ship itself was not being attended to. It is just not about CAPT Waddle, it is about the ship. Ah, I also in the morning, let me back up one, I just remembered this. In my morning on my tour around as I eluded to, I walked different places. I spent some time in sonar because I was concerned about, concern is to strong of a word again, I would like to retract that. Concern was just professional interest and experienced ah, eyes on target so to speak. As walked around, those that know me well know that if I see something I will comment on it whether it be a sailor or an officer or whoever. Just to say hey, you know, and not in a threatening or demeaning way, just to the matter of you know remind them or call their attention to something that may not be. So I clearly remember as I walked into sonar in the morning time frame that there was a sonar sup and a couple of sonar operators and during that time frame I asked the sonar sup "How is it going", and "How long have you been onboard". I distinctly remember he said "two years" and sonar operators I don't remember as well and I don't, in the short conversation it was a matter of distracting them. It was a look at the sonar stacks and fell that the sonar operator and the sonar supervisor in particular had some experience and he was qualified to operate that type of thing an he was. In two years as a matter of fact, a first class petty officer who ah, and during - - who had been on GREENEVILLE for awhile and during that time another first class petty officer walked in there and I asked him what function of his job was and he was relieving sonar LPO. And I asked him how long he had been onboard and if my memory serves me correctly, he had not been onboard for a short period of time, a couple of weeks, less than a month something in that area. But, but in walking in there and there were no civilians in there at the time, I was in there no more than five to seven minutes I didn’t walk away feeling you know that this ship was not being run in a manner consistent with professional safety and professional operations. The stacks were manned, the information was flowing ah, and ah, the sonar sup was attentive to his duties and ah, it appeared that the conditions were normal without doing as all of you know doing your work and investigations. I didn’t do a investigation, I didn’t do a inspection. I did a spot check of, of things in sonar and that was before lunch I had forgotten

that I had done that. Ah, the ah, then after the lunch sequence, the other party came in for lunch, ah I think, ah that I was walking around the ship, as if I was back aft or whether I was forward or whatever I can't remember exactly, but I was, I did continue walking around the ship. I had stopped on the mess decks and complemented the cooks on the work that they were doing and the food that was served and that type of thing. Just making myself available around the ship. I think I sat down in the XO's stateroom for a couple of minutes and did some paperwork too during that time frame. Then the ship got ready to do ah, angles and dangles as we sometimes call it. High angles at depth and also ah, high speed turns and ah, I ah, was making sure that the ah, visitors were aware of what was going to happen and talked to them a little bit about ah, what was going on. I guess that should it for the record. Throughout the day I encountered the visitors many times and talked to them about if you are okay physically, is there any problems, you know this is really, is there any issues of the visitors. Things like that. I felt that part of my responsibility was to ensure that they were okay and talk to them about what I said, broader submarine force specific and submarine force issues and just the issues on submarines themselves. I interacted with the visitors frequently on occasion. It wasn't to take away from the ship. I just interacted with the visitors to make sure that they were doing alright. Ah, so I went to the control room ah, and, and because of my experience has told me that sometimes that ah, like I said I have never been on this ship before. It has a good reputation, it has done visitors before, done distinguished visitors before, but the high speed angles and turns is what I wanted to make sure of and I felt comfortable watching them do this. I didn't put myself in the CONN; you know where you were yesterday, where the officer of the deck is, between the periscopes or anything. That wasn't again that I wasn't here to run the Captain's ship for him. I was there to observe operations and provide assistance to the visitors. I stationed myself a little bit aft of the ballast control panel, the ship's control panel over where the Diving Officer of the Watch is. Where the ship's operators are. There were some civilians in there and I was aft of that, a little aft of the radar, but close enough that I could see speed, planes, angles, and where we were and listened very carefully to what orders the officer of the deck gave to in regards to how many angles, how many degrees up and down, what the depth was, and what the speed of the ship was. Because just from experience I have seen people ah, exceed those, exceed those limits because of who is on the planes and things of that nature, and what their state of readiness and practice is and I didn’t want to order well "let's

make your test depth, test depth" with full angles with the first time of angles out of the box. I wanted to make sure that they did it in stages and that it was fifteen degrees rise or dive and the speeds were reasonable and the depth was reasonable and those things were good. They have done that and they knew what they were doing and we did some sequences of through ups and downs, so after a couple of times of doing that. Ah, I didn't perceive it as being rushed. It didn't strike me as being hectic. It didn't strike me as being ah, - - other than professional. Ah, there was a lot of conversation, there was a lot of people in the control room. We looked at that yesterday when we walked the ship. I told you how many people were in, you know all the visitors that were in the control room and the ship's watchstanders were in the control room. There was at that time absolutely, unequivicably no civilians involved in any operations of the turns or the high-speed turns or the angles. It was all done by ship's company at all depth. And then with continuing with the sequence we did the ah, - - we did the ah, first did the angles and then did the turns and the turns for those of you that are not familiar, are the ship is traveling at a high rate of speed to do full rudder turns one way or another. During that time frame it is just like a airplane when you put speed on the wings and speed over the bow planes the ship will bank and turn depending on which way you are going. I have again seen sometimes that some people are not proficient in doing that you know you get unexpected changes in depth and unexpected ranges in action, I just didn't want ah, anything to go in that area. I was particularly attentive to that. And I walked away to be honest with you very impressed with the ship's ability to control the ship's angle, speed, and depth. At high speeds I have seen many other ships do it much worse. Ah, it was ah, I admit saying to myself that "that was pretty good." Because I have seen people get off depth by you know fifty to hundred maybe more than that. They maintained depth at a very very minimal bound through that. I remember consciously, because I was attentive to it, that the Captain leaned over before they did the turns where he leaned over and pushed the planesman on the shoulder like this

[The witness demonstrated the Captains movement for the Board]

WIT: and said "when is the last time that you did this". You know "have you done this" - - so I felt very comfortable that the Captain was very cognitive of the potentials there and was aware of it and was appropriately concerned without being afraid or anything else. He was, he was aware of the significance of the events and the ship was in control and I felt that the ship

was performing well. So the reason that I go into such detail about that, because that led to me to remember the second reasons that I was out there was how does the ship really perform vice what it the reputation of how the ship performs and you really you are only there for six or seven hours, but those are some severely complex maneuvers from the standpoint of a submarine. I think that one other point here that is critical that I should make. That is not hot dogging or anything else. That has to be done as a ship's proficiency item for the ship to be able to carry out the ship's mission that we train them to fight in war for. That isn't done just for the sake of doing barrel rolls or acrobatics or anything like that. It's ah; it's a point that the ship needs to be able to handle those types of speed maneuvers to be able to carry out its tactical missions. So, so you know that they were well trained to do that based upon the observations from that one time with those people, they were good to go. I was really impressed with that. So that led to me thinking you know okay, there is a little check in the block and then I walked around the ship for about five hours here this morning and the people are pretty, the crew is pretty happy, up in pump and things like that. The morale of the ship seems to be pretty good. The ship knows how to handle itself pretty good ah, sonar on a spot check they knew what they were doing ah, you know it didn't leave you with the impression and I have been on ships where you are on ships for awhile and you go "WHOO", you know they are going to have to pay a little bit more attention. They didn't leave me with the impression that the ship had anything other than a professional team working as a professional group of individuals. Aware of the hazards and safety. Proud of what the ship could do and proud on being onboard the USS GREENEVILLE. So then we a, stopped from the ah, high speed evolutions and ah, and slowed and came to one hundred and fifty feet for preparations to going to periscope depth. Ah, the ship with the OOD doing this and being aware that the ASVDU, the Auxiliary Sonar Visual Display Unit, was not operating properly, it is a video screen that is above with data from sonar right above the Captain's and the Officer of the Deck's head as he stands on the control, was out of commission. And recognizing for the first time, from my recollection, and I think I am right, but I would have to check the logs, but I think so this is the first time that the ship had preceded to periscope depth since I had been on the ship. And so I was in the back corner of control as we walked through yesterday. Knowing that the ASVDU was out of commission, looked at what was going on as far as preceding to periscope depth from a distance having been in sonar already and the captain said he was going to have the XO go to sonar. XO was on the CONN back in the

forth and ah, I heard him say those words and sonar was there. XO is the second most qualified guy onboard as everybody knows. A knowledgeable submariner. And he was going to be in sonar and Officer of the Deck was on the CONN and we were proceeding to periscope depth. Not preceding yet, making preparations to go to periscope depth. We do some ship's maneuvers and I am talking to some of the visitors about explaining to them about what is going on while they are doing this and ah, there was other things that you should be aware of. Did the visitors have camera's or did they talking to each other or taking pictures of the angles and things like that? Yeah. Were the visitors in the control room all during that time? Yes. Was the ship force and the ship's watchstanders in the control room? Yes. There were no watchstanders that I ever saw or envisioned that were missing. You know, it is up to you to decide whether on how the watchstanders were to their assigned duties. It did not leave me with the impression that they were lax or distracted. Now what was getting written down, how precise where the quality of the reports, things like that, I don’t know. I can't speak of that. In the cold light of day and investigations I am sure that there will be things that people find that weren't precisely done as procedure makes it be. But was it so obvious or did it concern me? The answer is no. The answer is no. You know it didn't strike me as that there is something grossly wrong here. Ah, look at the sonar displays. The Officer of the Deck is moving the ship in a manner to try to ah, to ascertain what his contact picture is on the surface for preparations to come to periscope depth. The Commanding Officer was on the CONN with the Officer of the Deck. Ah XO, was in sonar or going back and forth. Ah, it didn't strike me at all that there wasn't anything toward haste based on my experience or lack of decision making process by either the OOD or the CO to acknowledge the importance of what we were doing and to get to periscope depth safely. And obviously they did. The ship went to periscope depth. There was no untoward instances. No contacts report. No, you know, no unusual events at periscope depth from the prospective of getting there. From the perspective of getting there sir. I know that you know that experience very well from the perspective of getting there. The Officer of the Deck pulled up the scope, did the search while he was coming up, and once they broke the water he did visual searches at least, and you know I ah, at least there is no question in my mind, you watch him swing around the scope. At least three from my recollection and maybe more, visual searches. Now was he at high power, low power, or anything of that nature, I can't tell you factually. I can't tell you that, I just don't know. But ah, he did those searches. I never heard any report of contacts

visually. I never heard any reports of visual contacts. And the Commanding Officer took the scope and did a search also. The Commanding Officer not only took the scope and did a search, the Commanding Officer ordered the depth to the Officer of the Deck to be raised to a higher level and in the back corner, I couldn't, I didn't cognitively look nor did I know how much the ship's depth changed during that time frame. I do know that the Commanding Officer did order a higher, a higher depth. You know, so he could get a better look. And I do know that the Commanding Officer consciously looked down the astern of the ship at that time, because it troubled me, because I didn't know why he was looking astern. I was ah, "why is he looking astern"? And, and I found out after the fact when he went down, still no report, no visual contacts, no visual contacts anywhere. No where was there any visual contacts reported. I was not in a position to see a flat screen of video display and I couldn't tell you myself if it is was on or off, I don't know. I heard that it was on, I don't know that for myself. Because the visual display is over on the other side of the control room, on the starboard side, I was on the port side. But there was no report of visual contacts. And the Captain looked astern, which kind of bothered me because we normally don't spend a lot of time looking astern but we check that. You know, we are moving in this direction, you look in the area that it is. But then I figured it out when he went down because he told the Officer of the Deck to turn the direction of the ship and proceed in that direction. So in all honesty that checked in my mind to say "okay, I got this now". He got this now, he was going to go down and turn and go in that direction to go up and that's why he spent some time looking down in that direction. How tall the ship was, how high the mast was, whether it was in low or high power, you know. What the sea state was, what the background was, what the visibility was. I didn't look out the scope at that time. As a matter of fact, I didn't look out the scope until I looked out the scope after the occurrence. That was the first time I looked out the scope all day for the record. When we got onboard as you know, it was a hazy, not a hazy, that sounds like southern California. It was a overcast high white cloudy day with rain squalls, sea state I'd would say is a good strong mariners a two maybe a light three on a scale of zero to seven is what we use. Ah, waves I would say six to eight feet maybe and maybe a couple tens. Ah, and ah, white cap foam, you know we don't do that. But again no report of any visual contact that I ever heard or even remotely alluded to. Having a lot of experience in submarines, even if there had been some, my experience has been, "wait a minute what was that" or if the visual display was on or something like that. There was

no, on the port side aft or in that area, no cognizant effort to say that there was a contact of concern at all. Just nobody there. So ah, the ship went back down as I alluded to. I already went over the scopes and stuff like that. Came down with an emergency deep, as it is again, not a hot dog or anything else, it is something the ship has to be able to do. With all sections preceding to periscope depth or at periscope depth in the event that a ship comes out of the haze or gets closer than what you think, the ship has to be able to get back down quickly. And so the Skipper was demonstrating, I'm sure the prowess with which his ship could operate. And they did that well. They got down well from periscope depth. They ordered up speed and after they got down they ordered the direction of the ship was in at the time of I guess the event. Ah, they ah, they got to four hundred feet, slowed ah, because emergency deep orders up a higher bell speed than what the two thirds were that they were going to do, they slowed to two thirds, if my memory serves me correctly. Might have been standard, but I think it was two thirds. Ah, and ah, at that time, that short discussion about that we are going to conduct this emergency blow and the operative term there is more for the ah, the ah, riders than it was a discussion or briefing of the crew, what's going on. The crew demonstrated to me that they had a pretty good working knowledge of what was going on and ah, from there other operations and it wasn't the brief that was like well, this is what's going to happen, this is what I want you to do, this is where the plane should be, and stuff like that. They assumed that the crew had that knowledge. The briefing was a short briefing targeted at for the riders that the ship was going to come out of the water pretty quickly, make a high roll, and not a high roll, but a high ark over the top and ah, he had asked if Mr. Halls and the names are now public, if he would like to move over to the ah, below station where you lift the valves and actually conduct the emergency blow. You saw that yesterday on the ship. Several of you have pointed that out. And secondly, a young lady that was with the group was asked to move over where the diving alarm is and when conducting the emergency blow the ship sounds the diving alarm three times and using the term alarm is probably in the sake of what this is going on almost a misnomer, because the it is an announcing circuit that alerts the crew to evolution that is going on. It is not an alarm in context that something is grossly wrong. A collision alarm is grossly wrong. A diving alarm is used to say that we are submerging ship and to announce that we are doing an emergency surfacing. Okay, from that prospective if it was an actual emergency then it is the alarm. From the standpoint from any time that we do either for

maintenance or training for an emergency blow that is part of the procedure that the diving alarm is sounded. It's ah, it's a um, functional thing, not a thing that when you press the button that you get any type of automatic action occur with any equipment throughout the ship. All this equipment does is sound the alarm. So the lady who was pushing the button was just sounding an alarm. The, there was, I moved further back in the control room, back further towards the door, because these two people kind of moved over there, because there was a lot people in the control room, shuffling back to allow those people to do, do their thing, but the CO was on the CONN, the XO or the, OOD was on the CONN, the Chief of the Watch, the Diving Officer of the Watch, and the planesman that I could see there ah, the Captain told the Officer of the Deck to go to emergency surface of the ship. The Officer of the Deck ordered emergency surface and proceeded to blow the valves in the manner that it was done. I distinctly remember Mr. Hall counting very loud over the rush of the air noise to ten, because that is what they had told him to do. And I distinctly remember the Chief of the Watch and the ah, Op, Operator who was there right here with him. There is no question in my mind about that. You know, I am just sitting down here and you walk up and just blow these things and I'll just sit there. It wasn't like that at all, at all. At all. The ship ascended to the surface with a fairly significant--meaning I would estimate a fifteen to twenty degree--up angle, but I didn't actually see the actual indication. Ah, absolutely noting caused me to believe that there was anything wrong in the process. How the ship reacted to the blowing of the air and how it reacted to the angle and how it ascended up. There was nothing there at all. Ah, Okay can I ask if we can stop for a minute please.

MR. ROFF-ROFFY: Yes, sir.

MR. ROFF-ROFFY: Okay we are back on from a brief two minute break. Please continue sir.

WIT: Ah, so as we came up the ship shuddered is the term that I would use, in a way that I am not used to. I knew that something was not right. I didn't know what it was that wasn't right. But it was not a normal response. But then by the same token to put it in boundaries. If this cup is sitting on the ship and this cup is at a fifteen degree or so up angle. This cup did not fall over. This cup did not fall off the desk. This pencil if maybe it was next to, right next to the chart here may have fallen. It was here, it wasn't so much that and that there was stuff all over the place and stuff like that.

The best term I can think of is shuttered unusually. In a manner that an experienced person knew that something was amiss. But it did not cause any hysteria or panic or anything by the visitors, who because they never experienced it before may have thought that nothing particularly, was wrong. It wasn't a horrifying collision or - - I think that the ship shuttered unusually and then I knew that something was wrong. I immediately look at the CONN. I was not necessarily focusing that way, I look at the CONN, saw the Captain's eyes he said something like "what was that", or words to that effect. I just don't, it wasn't any long diatribe of expletives or anything like that, it was something that was, you could tell that he thought there was something wrong also. And I looked then at the ship's, I even pushed, not pushed, nudged a couple of people, so I could get a better look at the ship's control panel to see if things like the planes and to see if things like what depth we were at and to see what the ship's condition was, you know from the prospective of that, it could be displayed there. The ship was still traveling at a rate of speed that was slightly higher in my mind's recollection then what you can raise the periscope at when you are under water. You have to going less than ten knots or you can bend the periscope and I thought that we were slightly above that. And I looked at the depth and again depth is like this, if it was at an angle, part of it is out of the water bow out and the other part is stern in. So the depth indications are not precise as an exact altimeter bouncing a radar signal off the, off the bottom of the earth and getting a signal back or however else we are doing it by GPS these days. It was an indication, but the ship would normally when it comes out, it will come out splash, settle, come and maybe resubmerge a little then come back out in this type of an evolution. So the idea of looking to see what we hit was clearly on my mind and I think it was on the Skipper's mind of what we hit was an assumption. At that time, I didn't know what caused the shudder, was clearly on our minds, but there was no means immediately to do that, because you are concerned about the ship safety. Also concerned about reports from the ship. Like I said it was a shudder, it wasn't a, the other thing that I have to remember all that experience I showed you about, I have never been involved in something like this before. This is the first time that I have ever sat on this side of the situation. I have always--due to a great crew and good people that I have worked with and maybe a little bit of luck and a little bit of leadership--I have been able to never have this type of thing happen to me before, so I am not an experienced, there are people who are, people who are experienced having collisions on ships before and it has just never happened to me

before. Ah, this was a first time for me also. In a matter of fact, you have to talk to that radioman that I found out after the fact, I think one of the arguments that you should ask the guy when he checks onboard is have you ever been involved in a collision. There is a radioman that has been in a collision on every ship that he has been on. After the fact, so having said that I'd, I'd consciously knew that we wanted to look because I was consciously worried that the ship was stable, that there was no leaking, that there was no reports of damages, but I didn't expect it. I didn't expect any, because it wasn't like it was a heavy impact. It was something that we shuddered with and it shuddered and vibrated. But we wanted to look. The ship got to stable on the surface, the scope got up, the skipper looked down the path, I think that the skipper was the first to look, I don't know if anybody else looked before him, I think that he looked. Ah, he said some words about "oh my god", I just don't remember but I was very close to him at that point in time. I had walked to from where I was up to the CONNING area, very close to him and I asked him if I could take a look. And he, he agreed to have me take a look. It wasn't like no you can't or let me get someone else. I looked, I looked down the bearing draft, where the ship that was sinking and I could see two young kids that were on the after starboard side that were terrified as I have never seen in my life. And the ship was definitely sinking. I looked and I said that we have to stay in the vicinity, contact the Coast Guard, conduct a search and rescue effort and do it now. And I gave the go to somebody--I don't know who it was cause I went to radio--and I looked up at the CO and I told him breathe deep, relax, get--make sure your ship is okay and get a search and rescue effort started now, now. And I looked at him and to me time was so hard to judge now when you were in this situation I cognitively stopped and looked at the CO and determined whether he was going to be okay, because he had a lot to do now, a lot. And I told him, breathe deep, get that going, and I went to radio to get a mass to make a report. I told him, you know, that we have to make this report now. For the record, I didn't think of it at the time, but I didn't have a lot of time to think about it. The only two people that I saw at that time were two young kids on that fantail, on the after starboard side of the ship and the look on their face. Nobody else did I see at that time. I saw, what you know I, there was somebody trying to report at the time I walked into heading towards radio. You know, we were looking at the port aft side of the ship. The front part of the ship was going in and across the stern of the ship you could see some lettering, I didn't the ship was hit, there was other things to worry about then getting the exact name of the ship at that time. At that time I wanted

to get people out there to assist and do what we could. I went to radio, made a report, I did it personally, I believe I was on the ah, on the phone telling them the ship location. Collision, needed assistance from the Coast Guard, inform the fleet, and I think that I also said the navy reactors in SUBLANT. Reasoning being for fleet obviously the command for the fleet and the Coast Guard for the search and rescue. Naval Reactors in SUBLANT because of the public affairs that we are going to have. And um, to have them provide any assistance that they could. Went back out into the control room, to check on the status of the ship, health of the crew, wellness of the DV's, search and rescue efforts, and not only and I don't know, I have never been down this road before I hate to think that you guys now because I said one, two, three, or four and you guys are going to somehow pick that apart, with regards to which was more important or what. All of these things are important. All of these things are conscious on my mind, all of these things, I saw the ship taking action to ensure that were done. The distinguished visitors became a, we removed them from the control room, we took them down to, we told them that we were taking them down below and they wound up being down in the torpedo room because that was the least place where they could be interfere at all. And there is no way in the world that those folks after they were exposed to this tremendous, poor, or tragedy there is no way in the world that any of those folks impeded any operations of that ship with regards to taking care of this tragedy and the search and rescue effort. No way at all. They left the control room and went down eventually to the torpedo room and then were people who were suffering to a very tragic occurrence. No way impeded anything that went on inside that ship. But also we had received reports that, that there was some vibration in the main engine, vibration in the shaft, and that the aft seals had shifted automatically to another seal, and I was in parallel with the search and rescue getting ready and making the reports and concerned about the safety of the ship itself. Was our ship okay. Was our ship okay. And um, because of the leakage in the shaft seals and because of reports of it shifting I knew that people were manning the bridge, I knew that was going on, I had seen that, people getting all the stuff out to do that, I knew that the communication plans had been made. We had people on the periscopes, both periscopes up looking. I knew we were communicating. I knew that we were staying in the area and I knew that we were manning the bridge as quickly as we could. I knew that the visitors were okay. I knew that there were no report. I was concerned that there was some leakage that was going to cause that ship to, to itself to become a casual - - a

causality in this thing. I went with a senior enlisted nuke to make sure that the seal, the leakage rate of the seals wasn't so significant. That we had a bigger problem that we were going to have to deal with two hours from now. Satisfied myself on that, it went very quickly and went back. Checked on the status of the visitors quickly, because I was concerned about what their well being was. I saw some emotions, tears, but no hysteria. Concern, but that, that was it. Went back up and saw that in the mess decks there was people out with ropes and ladders and all the gear that you would need getting it out because it was still early. All the gear that you would need to, if you were going to open a hatch from the, the, from the main decks. All the people were there that needed to do that. They were setting up the wardroom for recovery of people. The medical team was out. The Doc was out. They had people with stretchers. They had people with the lights were getting up and all that stuff. All that stuff was moving into the wardroom. There were divers that were along underneath the bridge access helping to get the stuff to the bridge and the person who manned the bridge. I know this, I wanted to try to do this in sequence, but it all happened so quick. I was running around and just have never been down this before. I apologize for just kind of randomly running around, but these are things that consciously were going on in my mind's eye were causing me to check off. Okay, we are doing something here, this is good. I checked on the Commanding Officer again and I asked him "what's going on", making his way to the bridge, this was long before I went back aft to the shaft seals, again not in sequence here. Maybe I should try to lay it out better in sequence here. I know that I walked around, but that is just something, you are doing a lot and you are just not keeping a record of what if I took five steps this way or that way, or things like that. Looked at the scope again, the ship was gone. Absolutely no people in the water, in the water. People in life rafts and you couldn't tell how many people were in the life rafts, because the life rafts had the canopies on them like a pup tent. If you think about that, a pup tent. Big orange rafts and a pup tent entrance to it. And so unless you can right lined up to where you can look down the pup tent and then you don't even know because other people are in the way. It appeared that there were life rafts out there and that people were in them, on the outside. Not outside the raft but outside area were the pup tent was. You could see them, but there was never any time that I looked out the scope that I did ever see anybody in the water without a life jacket in the water, with a life jacket, anybody floundering around, or hanging on to any float ring or anything like that. There was never anybody in the water that was not in a life raft. From anything that I had

had reported to me at the time or anything that I saw personally. Now the sea state was as we described earlier. That, that the idea of that we slowed, stayed in the area and wanted to come back around and be in the area, make the reports, do all of that, and people were manning the bridge as I eluded to Jim yesterday, I think. As, as quickly as I ever seen a bridge manned in my experience on a submarine. If you follow the procedures exactly it will tell you, you've risen to the surface, sit there, and you line up this little pressure blower to put air into the main ballast tanks, because as you come out of the water pressure is equalized to cross the vents of the ballast tanks and as you go back down again you have atmospheric pressure in the tanks and wherever the ship settles you have sea pressure there, some of the water comes in from the bottom again to partially fill again the main ballast tanks. So what you do is settle, get this blower and expel the rest of the water out of the ballast tanks to ensure that you didn't do that and it was a conscious decision on the Skipper's part and halfway on my part were gonna commit the ship to, to ah, having a problem on his ship by our own making, but the ship was riding as well as it could be riding under the experience and based on the fact that this collision had occurred people on the bridge without going through those procedures of dewatering which we normally would do. You would run the blower long enough to get the back pressure and make sure all the water was out. Then man the on the bridge. When people on the bridge felt comfortable in that decision that we violated our own procedure there to make that happen so that we could get people to the bridge, because your ability on the surface is so much better on the bridge then with two periscopes walking around like this. While people were on the bridge, people were still on the periscopes watching, looking for signs of survivors, looking for signs of anything that we could do. And people went to the bridge. There was divers that got manned right beneath the bridge hatch there. Where I had you line up yesterday in that little room, besides the CO's stateroom going up to the bridge. There were divers who were ready to go. There were at least two crew members on the bridge quickly so that we could get it over the side in the event that we couldn't put people on the main deck. That we could put people if necessary if somebody was in the water, okay. I have to back up a little bit. And tell you what I knew about the Coast Guard Cutter and what I knew about contact. We were aware very shortly after that Coast Guard HONOLULU had received the word and that Coast Guard HONOLULU had a helicopter in route, in route. In my estimate, I didn't look at a clock or write it down, my estimate is that I think that the Coast Guard was on scene within twenty to thirty minutes after the

occurrence. It could be I mean I haven't checked or I might not know, but I know that the Coast Guard Helicopter there and we had contact with them. And it was a little more familiar then most people with Coast Guard Helicopters because my son flies one. And it was the Dolphin Helicopter and I know that they have a pilot, co-pilot, and a rescue swimmer in a basket. And they were there and they were looking the same way that we were. And there was contact from the bridge with them as far as, and their was nobody in the water that they have never seen either. We saw all the life boats. We sent both the initial formal message and the follow up message and I remember cognitively counting the number of life boats myself, because I knew that I went to the scope myself and looked. Because somebody told me that there was six then five and I said "how many life boats are in the water"? You've got five different numbers. I went to the scope and did a three sixty pan myself and I came up with the number eight. That was the number, that was it, because I knew that the Coast Guard would look hard. We reported nine initially and then there were eight, what happened to the ninth one. You know, I thought that it was a critical piece of information for the search and rescue that needed to be done. It needed to be as accurate as we could get it. I said eight now, now is it ten or six or five. I don't know, but eight is what I counted out. Eight is what I saw. Some of them were lashed together, three or four. Other ones were independent from were they were and the Coast Guard Helicopter came and was there. Shortly there after the next thing I remember cognitively is from seeing outside and looking in. It was a white helicopter that turned out to be a news helicopter. It was pretty much there, from there on. And we knew that the Coast Guard vessels were coming ahead and they made a time of arrival from the time of the incident. So now the situation is you got seas over the water, over the main deck on the submarine, the submarine itself might be damaged, but I relayed my concerns that it might be damaged. I know that they had lowered the outboard SPM, which is our outboard motor which allows more maneuverability to kick the stern around or one way or other. I knew that that was out and I knew that we were trying to stay within the field looking for survivors and rendering any assistance that we could. And I knew that the Coast Guard was coming. And I knew that the helicopter was there and we have never seen anybody in the water. It was a conscious decision to commit United States Navy sailors topside in sea states were the water is running over the ship on the main deck to try to bring in these folks who apparently where in the life rafts with nobody that had been seen either floating, you know no signs of life. You know there was just wasn't

anybody on the surface who wasn't in a life raft. There just wasn't any reason to commit the ship or crew to additional potential loss of life or injury on the main decks of that submarine, because there just anything that we were going to be able to do. Now someone could ask "why didn't you bring, get close to the boat and bring the boats to you and have the people come down to the ship"? If this would have happened at a hundred miles out at sea, you bet your butt we would have done that. Bet your butt we would have done that. But I knew conclusively that if we committed ourselves to that it would take us as long to get ready, to have people up there, the safety, the harnesses, the crane; I mean which were all ready, we were working in that direction. But by the time the we got there it actually opened up the hatch and water is pouring down and you have people coming up in between the waves and trying to deal with the water coming down the hatch and getting beat around in there and then you have to get in topside and get that lat - - you know where I showed you were that deck crawler is that they have to get their lanyard in that deck crawler and stuff like that. Be up there with cranial helmets and have your ropes and your lines and your life vest. One other point that I didn't talk about was that we knew that they didn't speak English, because from the bridge they tried to communicate some with them and with radio and the first time it was does anybody speak Chinese. They thought it was maybe Chinese. Then some other time it was no, does anybody speak Japanese. And so we had the language barrier to deal with also and again you go back to the central thought in our process is that those people were in life rafts riding safely together none of the life rafts had any signs of sinking or anything like that. And the Coast Guard has got a helicopter in the air within twenty to thirty minutes and the Coast Guard also has two small boats in route within estimated time of arrival of fifteen minutes. It didn't make conductive sense to me, not to the Commanding Officer, only to me, to commit people to that situation. We stayed in the area, we communicated, we were prepared, if we had seen somebody, if we would have seen somebody in the water from off the bridge, we would go after and get him. But as far as the people in the life rafts themselves and it was daylight that is the other thing, it wasn't close to you know dark and the people are still going to be here in daylight time so it just wasn't making any sense to me to bring that upon ourselves. Constant communication, we saw the Coast Guard small vessels. As matter of fact when the Coast Guard got there they asked us to back out. To back out, you know, to move so they can't interfere with business. So I think that we communicated, we knew that our ship was safe, we were prepared to rescue anyone that wasn't

in a stable condition, you know, on a raft. We saw that the rafts were in stable conditions, we had within a very short period of time the Coast Guard Helicopter, who I don't know, based upon my [garbled], they were talking would have a basket and a swimmer available to do that and the Coast Guard was there within an hour to bring the people onboard. And when the Coast Guard got there they told us to back out, so that - - it wasn't like the Coast Guard said like that we need you as the ship to put these people onboard. The Coast Guard said that we can handle this. Now the question of how many people was always a question on our minds. Always. Always. Always. The language barrier made it extremely difficult you know whoever, how many people were in the rafts and also how many people in those rafts might have been injured. And that was another cognitive decision process that we went through. If there was somebody in the raft who needed medical attention such that the medical attention was needed to be applied in a manner that we only had the medical capability to do that, that would have all been the calculus. But with the communication difficulties and the fact that we didn't know that it didn't make sense again to me to commit people topside, betting on the calm that their was somebody over there who had twelve stitches that he needed to be done possibly bleeding to death, because we didn't do that. It just turns out and thank god and everybody else that one person with a collar bone injury who had spent some time in the hospital, but it wasn't that process of thinking about the people that are in there and injured and maybe we could provide some medical attention to it crossed my mind. I am not sure if it did the Skipper's mind, or not, it is immaterial. But again looking at the sea state out the scope, looking at the situation of where it was, looking at how we had things, knowing that the Coast Guard would get there, knowing that we couldn't speak that language, and knowing that the Coast Guard would get there and knowing (a) that the Coast Guard is trained in medical assistance or (b) that there was a life threatening thing that would [garbled] thing on what the Coast Guard told us on when they arrived. So not gonna to put people topside to try to pull the boats over to us with people onboard. Once the Coast Guard rescued the people, we got number counts back and forth, we knew that it was either between twenty six and thirty five or twenty five or thirty four. Well always knew that there was a difference of nine. We always knew that there was a difference of nine. Ah, Coast Guard took actions, we took actions to stay in the area to be part of the team. We communicated back and forth several times. We also had to concern ourselves with the visitors that were extremely concerned at this time, that started to settle in, what impact was this going to be to them,

we requested on numerous occasions not to become involved in this. Numerous occasions, the motions of their eyes, you know, they didn't want to become a distraction or a side show. They wanted to be you know from their perspective all we did was walk onboard this morning at eight o'clock and expecting to get the experience of our lives, and yes unfortunately we have got the experience of our life, but not in the way - - they were very positive about it. They wanted to get off the submarine. They wanted to leave once they found out that we were going to stay out and be part of the search and rescue. They took that hard. There was many tears. Never hysteria, never how could you do this to us, but there was - - some people understood, some of the ladies were just not prepared to have that occur to them. We had to go through a lot of process of notifying families of them and stuff like that. Placating concerns that they had and things of that nature. Once the Coast Guard took the people in we stayed in the area. We became part of the search and rescue effort were we and I checked personally with the divers that we actually had night vision glasses. That is when I found out that the radar was not working right. And we were using the Ronal whether than the regular radar. And we had people on the scopes and people looking to see if there were any other signs of life. I think that is subject to any questions that you may have. That is a recount and there is some emotionalism involved some thought process. I haven't sat down and tried to right notes or instructions or stuff like that, because I didn't think that would be beneficial. That is all I got.

MR. ROFF-ROFFY: Sir would you like to take a break before we get our questions to you?

WIT: Let's do that two minute thing okay. Thank you.

MR. ROFF-ROFFY: Okay the time is about 2 minutes after ten I would like now to resume now with the interview of Captain Brandhuber. Ah, sir just to give you an idea of the procedure we will be using is each interviewer will ask you a series of questions and when he has run out of questions he will pass it to the next interviewer and we will go around the table and probably make a second turn around on the table. So that is the way that we have been doing it. Is that okay with you sir?

WIT: Yes.

MR. ROFF-ROFFY: Sir you mentioned that ah, that one of reasons that you were on the GREENEVILLE was to assess the performance of the crew, captain, and officers um. And you said I believe--

if you could please recount your impression of the performance of the crew during the evolution um, preceding the collision? Ah, the angles and dangles and the um, the ah, when they went to periscope depth, etc. Was there anything unusual that you noticed in their procedures or performance?

WIT: My - - you are asking me what my impression was. My overall impression of the crew was that they were they were a professionally well-trained crew. Who knew what they were doing. If you are asking me did I stand there with the book open and did it like I think they are called NATOPS, where you check off each one of those things while I was observing them do that the answer is no. The answer is no. And um, the answer is no.

MR. ROFF-ROFFY: Yes sir. Thank you. Sir could you describe the relationship between the officer of the deck and the commanding officer during maneuvers such as this? Who is actually in control of the vessel? Who has responsibility and what roles the commanding officer plays?

WIT: The officer of the deck just like both do the commanding officer and the officer of the deck both have well defined duties as described in Navy Regulations. I have been around for quite awhile they have been modified over time. Based on lessons learn and based on experience and knowledge. So I think that those - - I don't think that is what you are really asking me. You are asking me how this particular officer of the deck and this commanding officer interacted? And how this commanding officer saw his job and whatever? The mere fact that the commanding officer was in the control room and ah, involved in overseeing the high speed turns and the angles and dangles was the right thing. If I didn't see him there that certainly would have been "hey what is going on here". You know this is - - you need to be out there. Ah, does the commanding officer's presence have any impact on the officer of the deck with regards to the officer of the deck's ability to ah, carry out his duties. You've got thirty some odd years in this business, you bet your butt it does. I am not going to lie to anybody. I am not going to lie. But you bet your butt it does. This is a twenty some odd year old officer of the deck, who this is his first tour. I don't know how long he has been qualified. He has submarine dolphins. So he has completed all of his submarine qualifications. Which are extensive. By the time you go through - - I was the CO of the Nuclear Powered Training Command for many years and I have been a squadron commander and I have been a commanding officer of a ship, been an engineer,

and I have been an officer of the deck. You don't get to be the officer of the deck on a nuclear submarine and earn those dolphins and I say this with all due respect but I think that it is critical that people understand that. You earn those dolphins from a year and odd some change of work on the ship after you have spent well over a year and half in school shore side. You just don't stand there and get the, get the privilege of being an officer of the deck or the responsibility of being an officer of the deck just because you went to some school somewhere and somebody handed you a, ah some type of device that says that you are capable of operating this particular piece of equipment. It is a long and involved process for a commanding officer to certify that a gentleman, in our case because it is submarines, that gentleman is an officer of the deck. But still with that long and involved process, I don't know how long this gentleman had been an officer of the deck for his ship. But he certainly did not present himself as someone who was new to the scene per say, that this is the first time that he has ever done this, nor did he present himself in a manner that he was afraid or intimated by what was going to happen nor by the commanding officer's presence. I think he's cognizant, qualified, capable, officer of the deck. Now, with the commanding officer in, in the control room and the commanding officer overseeing oversight and influence of some of the events that occurred appropriately so, appropriately so. Did the officer of the deck feel either intimated or less inclined to do his job? Did he feel that he somehow abdicated some of his responsibilities because the commanding officer was out there? I didn't sense or see that. The only time that I say something that struck me as very interesting that I gave the commanding officer a up check for again was this business of, you know did I think that the ship was run professionally from this quick outwardly and not going down and doing a detailed inspection of everything that goes on. During the high speed turns the officer of the deck was standing behind the diving officer of the watch appropriately supervising the operations of his watch team and his went to turn to go away and the commanding officer was up on the CONN right between the desks, put his hand on his shoulder and told him "No, no you need to be right here, pay attention to this, pay attention to this", so do I think that either one of them were you know they weren't skylarking, that is a Navy term you know, they were not joking, distracted ah, anything like that. They were attentive to the thing at hand. Now, the other thing that comes into play that answers that in my mind's eye is always the question of speed rush, do you feel rushed to get something done. I did not sense nor was I cognizant of nor did I care. If someone that there was some rush to do this. Ah I, my perspective of it,

maybe from a CO's prospective of it is that if they are supposed to be in at three o'clock to get distinguished visitors onboard. If he is in at three thirty somebody thinks that he performance eval went down or something like that. I did not see, I certainly know that I didn't put any pressure on them at all. I didn't talk to them about it once saying "you need to get on with this schedule, you need to get on with this". You know, did they, I am not naïve enough to know that my presence onboard, my experience, and my position and stuff like that, that doesn't cause somebody to think that ah, we have to do something here, but in no way were they pushed to do that. If they had some self inflicted push that was not obvious to me. And the only other thing that I can tell you is the periscope thing, again the difference in my mind's eye and the critiquing the event as if I was instructing them to do that in a position of direct responsibility versus standing back and talking to other people about things and observing someone else conducting an evolution. I certainly didn't feel that I need to step in and tell the Captain how to run his ship. And that's, I mean that's it. But having said that, having said that because I think that it is critical and I am not a doctor or anything like that. I have a lot of experience running submarines and a lot of experience with people and all the people that operate our submarines. Had this not happened and had I as I always do, talked to the commanding officer upon leaving his ship as I do when I ride any other ship, I would have told the commanding officer that you have a good ship, your crew respects you, you run a good organization, you have a strong personality, and you got experience on this ship and the crew sees you as being right and the amount of backup that you get may not be the same level that you think that you are getting back. Everybody says that as the Captain, I have an open door policy and come see, you know come and see me. You know, if you think that I am wrong tell the emperor that he has no clothes. Well saying those words and having those words actually transitioned to where young John Caccivio says to me "Hey Captain, you shouldn't say these things, you shouldn't talk about those things". It is two separate things and I would say because of his persona and his personality, his, his gregarious nature, his experience, and stuff like that. Junior personnel wouldn't come to him the same way that he perceives they would come to him. Because he is the old man, he's knowing, he's smart, he is in charge, and he knows what he is doing. So was that young OOD when the skipper told him to go to periscope depth, you know ah, does he feel like you know - - the OOD looked out the scope and got to periscope depth safely, that you know I think that the issue as to be broken down to what the issue is. The issue is that the ship collided

with another ship. The issue is not did the ship get to periscope depth safely. We critique going to periscope depth all the time. How the baffles are cleared, how things are, and would that have contributed, if that contact was there. I don't know these things. I honestly don't know. I am, I am wondering myself. How in the world did that ship if it was making turns and making and stuff like that, how did they not have a better solution for it. How did they not have a better handle on it themselves, knowing that? How did they not know going to periscope depth that they should be able to see this ship? Those are great questions, great questions. The fact of the matter is, independent of all that the ship still got to periscope depth safely and so on up at periscope depth without having interaction with anybody with two people's eyeballs at enough depth on the scope, looking who didn't see that ship. Who didn't see that ship. I, I can't explain that. I can't explain that. And so did the OOD feel rushed to take a quick look at all of that, I don't, I don't know. I saw him swing the periscope around a conducive enough period of time that based on my experience that if there is somebody out there in daylight, in daylight not at night, in daylight that he should have been able to see that ship, I think. The commanding officer took the scope, raised the scope, raised the height of the ship a noticeable amount, and checked himself also. I can't tell how that happened. I can't tell you.

MR. ROTH-ROFFY: Sir is there a standard procedure for making a search for contacts?

CDR CACCIVIO: This is CDR Caccivio. There is a standard procedure and I have a copy of the standard procedure. If you want to continue and ask CAPT BRANDHUBER some questions, but it would be more appropriate when we ah, identify a break I have ah, I would be than willing to go through it with you. It just took us a while to get it in here yesterday.

MR. ROTH-ROFFY: In the interest of conserving time, I will concur with that recommendation sir.

CDR CACCIVIO: Put that in the there, make sure that I do that today, if that is what you want?

MR. ROTH-ROFFY: Yes. Sir, in your observation or as you were looking around it. Do you know that if that procedure was followed or did you just not notice?

WIT: I, I told you what I noticed and at other times I was talking with other people. You know the cognizance of exactly how much time they spent and whether they, they did that or not, that is a very good, very good question. I don't know. Thanks.

MR. ROFF-ROFFY: At what point sir would you expect the ship would best be in position to evaluate and get a solution for the contacts on the surface? Is it prior to going to periscope depth or is it at periscope depth? I am not sure that I am phrasing the question in a good way.

WIT: No I understand what I you are saying I am trying to be as concise as I can be on answering that. We have been trying for the twenty-seven years that I have been involved as an officer in the submarine business to make the oceans transparent to us. That we could see all contacts, real time, with range, course speed, and bearing. I think that somehow people thing that somehow we can magically do that because the mystic of nuclear submarining and what we do and stuff like that. It's a very complex process that allows you to passively listen to determine what is out in the ocean. It certainly isn't transparent like a radar is you know, thunder storms can interfere, I am not trying to, I am not an expert in that area, but there are other issues. But we certainly have a more transparent approach to the above water atmosphere than we do the below water atmosphere. And what we can do to ascertain to periscope, preparations to go to periscope depth, during the transition to go to periscope depth, and once on the surface at periscope depth with regards to the contacts is a very, it is a lot of science, but it is an art also it is not, it is not, there are laws of physics that apply, there are laws of sound and propagation and thermal climates and temperature and salinity and all kinds of things. It isn't, it isn't, now the answer to your question I am trying under the guise of, I can't tell you that there is a better way of doing it one way or another. You know what you have when you thing that you are proceeding to periscope depth and if we would have believed that everything that we would have had when with the sonar system, then there would have been no reason to have the optical system because you would know. You would know, but yet we have multiple systems including ESM when we get to the surface to indicate to us what the contact situation is on both above the surface and below the surface. And there are the best procedures that we can put together based on a lot of experience to ascertain those conditions and we use those to try to do that. And I am not trying to duck you there, it doesn't offer a black and white answer. It is a complex situation.

MR. ROFF-ROFFY: Sir it seems to me that several of the sensors are very good at determining the bearing to a contact. For example the----

WIT: Yes.

MR. ROFF-ROFFY: the passive broadband radar receiver sonar is very good at determining a bearing, however the solution of the contacts range seems more difficult?

WIT: And speed. You can always get a bearing----

CDR CACCIVIO: I am sorry sir. Did you correct yourself or do we need to say passive sonar system there is no passive radar system on the sub?

MR. ROTH-ROFFY: Um, I was referring to the ASM.

WIT: ESM.

MR. ROTH-ROFFY: ESM?

WIT: ESM. Once you are up on, once you can get the receiver out of the water and can receive, can receive signals; it is in the band that it is tuned to, to receive those signals.

CDR CACCIVIO: This is CDR Caccivio. As we discussed yesterday when you are on the boat we will get all signals ah, however the ranges that were referred to by the ESM operator are experiences. There is no display for him that would indicate a range associated with that signal.

MR. ROTH-ROFFY: That is actually what I said. That they were able to resolve a bearing.

CDR CACCIVIO: Okay.

MR. ROTH-ROFFY: And no bearing----

WIT: Bearing comes down to sometimes quadrants not down to specifics. You can do that if you take another mass with certain equipment and direction find passively and try to get it down to a better specific----

MR. ROFF-ROFFY: I see.

WIT: specific bearing. It can tell you that there are contacts in this area if you ask and we do part of that art. It we got that contact in that quadrant and it is the only contact in that quadrant and we have a bearing from sonar that is in that quadrant, we would probably do the mental equation that maybe these are the same contacts. But if you have multiple contacts in that quadrant, you can't say that that is a specific contact. But, but sir pleas go ahead, but with the regards to bearing, yes sonar bearing we could nominally give you a relatively accurate sonar bearing to a contact.

MR. ROTH-ROFFY: And we have had some discussion of active sonar ability to determine ranges. Could you discuss that a little bit on why, why the commanding officer would choose not to use an active sonar for getting some additional information on ranges?

WIT: Sure. It is well--good way to put it ah, additional information. First of all I have extensive experience with active sonar on submarines in the United States Navy. I was the commanding officer of the first improved submarine similar to GREENEVILLE the 688I class that is called the USS SAN JUAN right, in the early nineties, right--these guys okay?

MR. ROTH-ROFFY: Yes sir they are part of our team and I'll introduce them in a moment.

WIT: Okay. In the early nineties where that system called the BSY-1 sonar system, let's break.

MR. ROTH-ROFFY: Let's take a short break.

MR. ROTH-ROFFY: We are back on live. It is about 1033, after a short break.

WIT: I think that the question was regarding on active? Is that where we were?

MR. ROTH-ROFFY: Yes, sir. That is where we were.

WIT: Ah, I was saying that I had some experience in the early nineties from the busy one it was a new system, that um, on that had to go through what we call the tech eval and the hop eval process, which means a large contact and over time the government to ensure that whatever was promised to be delivered at sea was checked out to see what the differences were. We did an awful a lot of that work and a lot of that was centered

around that we thought the MF, the medium frequency, the high frequency active on the busy one system would be an improvement to be able to ascertain what is being done. So we practiced that a lot and work with that a lot. With knowing shapes in the water, knowing sounds in the water, and tried to get returns and to the extent that the example that I gave you is transmitting through mine fields. And there was known shapes based on GPS placed in the water column placed in the Gulf of Mexico and we would take the ship in there and try to use these different types of active sonar to specifically locate these items, so that we would be able to avoid them as we transited through the columns. In my assessment of this after many hours and being very experienced in this, there are three rules of active sonar in regards to mine fields. Don't do it and if you are forced to do it see rule one again. Don't do it. And the third one is if someone tells you that is you direct orders to do that, send the ship that has the best active sonar that the production model will give you. A that time, still see rule number one above. Don't do it. Because it is not something that you could just look at the sugar glass, that thing over there and say it is right there, it is not moving, and I see it and I know where I am and I can maneuver enough to get away from it. It just isn't that exact and we put a lot of money into it, trying to figure it out. It isn't that exact. And so, I would never say that sonar operators in the fleet don't know how to operate their active sonar or don't use their active sonar. They do, but you have to remember what I think the mindset of submariners is that we use those things over time and it's - - even if you use it and you see a surface ship, just for practice and you see a surface ship and you get the kid in sonar and you tell your OOD that you want to go active on that surface ship. You can see it and you know that its range is eight thousand yards away because you can physically see it and you go active and you don't get a return, you don't get a return. So you try a different pulse length, a different power, a different angle of deflection in the water, and you keep trying and you might get intermittent return. So, that is even when you can see it. You can see it, you know that it is there. So the confidence level that people in the submarine service have in the ability, not because we haven't tried, but in the ability to get an active return is just not good. And then the chief goes to the new sonar tech, "hey what is all this active all about", and then he goes "ah, get your passive down and learn your quals and get everything else to go and somewhere down the road we will work with you on that and you will see that it isn’t something that systemically that we have been able to solve the problem". I think that is a point that we need to understand, we are talking about human

factors here. The other important thing to understand is that we are the submarine service and what we bring to the table is our stealth, in our business of not being there. We go places were people know that we are not there. As soon as we go active what do we do, we give up our stealth. And so we are not inclined to, to say get all this time to get where we want to be and get this information and do the job that we are supposed to do and then we sit there and say let's go active. Let's go active. That is why it is so important to us, because we would like to be able to do it in a manner that would maintain our stealth and give us that information. I mean don't think that we are dumb either, we want that information too, we want to be able to, but we haven't been able to solve the physics of the frequency transmission, the disintegration, all the things that go with it and we haven't been able to solve it. So, so we don't want to. Thirdly, then you would say that you are talking if that you are over there why don't you right out here in Hawaii you know that it is in an area and stuff like that, you wouldn't get lost, why don't you use it here? There is the issue of training, having people practice to the point that we have to get to periscope depth in situations that real missions count without using an active sonar and we have to stay there and determine contacts without using active sonar and if all the time that we are in Hawaii you say to that young kid assuming that it worked all the time and it didn't give us away, well don't worry about all this passive stuff, just go active and active will give you the solution. Well, then when we go and say turn off the active, when we are really in a place that it counts, then turn off the active and say to the sonar operator, "you need to tell me if there are any contacts out there". It's, it's just isn't a, it is a tough problem that we have been working on for a long time. And so, if it was, if it would maintain our stealth and give us a path to see everybody else that is around us, then all that passive stuff would go into the tubes and go away. But it just doesn't do it. It just doesn't do it. It is not because the organization has not tried over time. So the combination of the training, the mission, and the physics and the technology that brings it to the table ah, it-- we don't use it as much as we should. Now, could you ultimately say sure, why don't you just push the button and solve the problem and say that the guy can check off the block and say "yeah, I went active". Sure you could write that down. You could write that down. Would we expect or see if we would have gotten a return. I don't know. I don’t know. I don’t know. But that is the best answer that I can give you sir.

MR. ROFF-ROFFY: Sir are you aware of any technology or any new technology develop or being tested now that would improve the submarines, improve the target resolution? Specifically referring to range?

WIT: Not specifically. I do know that it is an ongoing program and I would be able to tell you what we have been able to do just like anyone else with technology as you laptops here, because you can process and distinguish the signal a little bit better. It has been a problem of getting the return of the contact of interest instead of the background return you get from putting this energy out and returning it. So maybe with improved process and capabilities it would be there, but the people that are the experts know the physics of sound and water and know the thermal climates work and all that stuff works, I don't think that there is a lot of new technology in that area.

CDR CACCIVIO: This is CDR Caccivio. I just need to add some things here. First of all, those types of developments typically fall under the N7 organization of SUBPAC. CAPT Collins is going to meet with you shortly after this time. He can talk to those issues specifically. He can talk specifically in improvements in passive and active sonar capabilities that are under development. He has Lockheed Martin representatives and Naval Undersea Warfare Newark representatives standing by. These gentlemen are all prepared to go to sea on USS ASHEVILLE, as was the invitation to be extended to the NTSB and the purpose of that was to demonstrate the abilities of the active and passive sonar capabilities and in this case improvements that we have done in the system so you can see those. I believe that offer is still out on the table. Although at this point currently the NTSB will not be going out to sea on the submarine. Should that transpire or should you desire to have a Lockheed Martin or the Newark representative of CAPT Collins send you those issues, just let me know and I'll set them up on the schedule to do that.

MR. ROFF-ROFFY: Yes sir.

CDR CACCIVIO: In fact, let me just add that they do have, they may have some means to actually demonstrate active capability if not, if not then I can arrange to go back up to the Naval Submarine Training Center Pacific and to the control room and I can actually simulate active transmissions if you think that it would be beneficial for you to see the clutter and the false returns that we are, that CAPT Brandhuber and some of us that we have discussed over the last couple of days to probably give you

a better feel for where I am sure is probably something that is not as quite as clear basically on description as we hoped it would be.

WIT: I think that the question from the NTSB was as specific. How much do I know, I know that there is ongoing technology and ongoing work that goes into that time, where that is specifically stated is probably a better answer somewhere else.

MR. ROTH-ROFFY: Yes sir. I was just wondering if it would be under your cognizance.

WIT: Well N7 is under my cognizance but the specifics as to how N7 does that is still, is still there.

MR. ROTH-ROFFY: Okay, I understand. Sir, could you please describe a little bit more in detail about your command relationship with the commanding officer? You said that conscious decisions were made. Could you describe who made those decisions and whether you consulted with the CO or if he consulted with you and how that was done?

WIT: Up until the time of the collision the CO was doing everything on his own. I didn't try to or ask him to you know, interfere with what he had done. He had done these types of cruises before, the ship was an experienced ship, not fresh out of the shipyard, it had been operating, the ship had a professional shore side reputation from people that knew the ship and I didn't, I did not demand from him or expect from him to come to me and say "may I do this, or may I do that". It is his ship, he was the commanding officer.

MR. ROTH-ROFFY: Subsequent to the collision sir, could you speak to that as well?

WIT: Subsequent to the collision, I cognitively knew that we were in a different relationship and I spoke with him on several occasions in generalities other than what I told you on the CONN. I was very specific and I checked on his well-being to continue operating his ship safely for the remainder of the time we were at sea. I made cognitive decisions about that.

MR. ROTH-ROFFY: I don't want to belabor the point sir. But did you direct the search and rescue operations of the GREENEVILLE at any time?

WIT: I feel like Clinton. What do you mean by direct?

MR. ROTH-ROFFY: Sir----

CDR CACCIVIO: This is CDR Caccivio. I think what you might be trying to articulate here is what was the role of the Chief of Staff as the TYPECOM representative would have in the oversight of the efforts of the ship. I think what you need to do is clarify so there is no confusion in your questions. Did you, was he taking, was he actually directing the SAR efforts onboard or has his role as Chief of Staff was he there providing supervisory advice to the commanding officer or representative direct?

WIT: I would feel very, very comfortable and I don't, I mean I hate to be picky but I mean direct--you tell me direct--and I say "yes", then somebody immediately says you assumed responsibility as the man in charge and you directed what happened. I cognitively observed what that man was doing, made sure that I felt comfortable that we were carrying out appropriate degree of search and rescue efforts and I think that I articulated to you very carefully in my wording to you and felt comfortable that the ship did what the ship could do based upon the circumstances on this one event in order to maximize its efforts in the search and rescue while maintaining its safety to operate.

CDR CACCIVIO: This is CDR Caccivio. I would like to articulate what CAPT Brandhuber talked about with the term "man in charge". This is something, this is a term that we use conveys, a meaning to us, it may not be as conversant with you. This is, if I was to draw a comparison this would be like the EMT techs that would go off to a car crash while they maybe in communication with a hospital or a doctor who can provide them oversight and guidance and a supervisory review to make sure they don't distracted by any certain conditions at the scene. They are fully responsible. They are in charge. They have authority. They are responsible to take appropriate action and to deliver that member to the hospital. It would be similar. The "man in charge" for us would be very similar. In a fire as the engineer, I would be the man in charge. I am responsible and I am accountable for all efforts to extinguish the fire and the safety of the personnel and the restoration of equipment and to provide the commanding officer guidance. Do I report to him? Yes. Do I keep him apprised? Yes. Can he send me direct orders? Yes. Can he give me guidance to make sure that I am not getting bogged down with details so that I am still thinking in terms of the big picture of events that need to occur? Yes.

Is he in charge? Yes, in the sense that I work for him. But I am responsible for at the scene in taking all appropriate actions. And that is the only way that we can continue to operate by delegating that responsibility in that only one member is accountable, the man in charge. That is the concept of the "man in charge" for us. So in this case, if I had to draw a parallel I would say the man in charge is this commanding officer. He is responsible, he is accountable for the execution of his ship's movement, and interaction with the SAR routine, Coast Guard, and surface ships. Is CAPT Brandhuber capable as the senior submariner and as the TYPECOM representative to oversee those actions, to maintain a big picture, attitude, and look to make sure that we are covering all areas of effort and provide a area of forceful backup to the commanding officer? Yes. He could do those. But would we expect him to step in and give a specific order? Not routinely. Could he do it? Yes. If he felt that it was required or necessary to ensure the safety of any member of the crew or the any, any other party in this evolution.

WIT: Another thing if I may. I have thought about cognitively in that area. I told you a couple of times that I checked on the commanding officer to be sure that I thought he was cognitive of his, of his responsibilities, that he was carry out those responsibilities without what we call giving rubber orders specifically or telling them how to suck wind or describing in great detail what you should do. And did I consciously think about what was happening? Did I think that he was not capable of handling that? You bet your fanny I did. You bet your fanny I did. I thought the Skipper despite the ah, the ah, the terrible tragedy that had befallen that ship on numerous occasions I checked on his well-being either in his stateroom or watched him publicly or watched him on the bridge or watched him talking to the visitors, or watched him interfacing with his crew and made cognitive decision on how that man was. With some help, with a little bit of guidance, with a little bit of direction, was still in charge and I honestly thought if I would ever say that if he did something that I thought was grossly wrong or grossly grievous there is no doubt that I would have taken the right action. There is no doubt in my mind. But with what the man is going to have to live with the rest of his life and everything else I wasn't going to, you know things were going well, not okay, well after the event happened. There was, and he was cognizant and emotionally stable enough and could carry out his duties and responsibilities well enough. I am not going to sit there and say "we are going to do something else here". Very cognizant decisions over the time.

MR. ROTH-ROFFY: Thank you sir. Sir at this time I would like to pass the questioning to Mr. Bill Woody.

MR. WOODY: Good morning captain.

WIT: Good morning Bill.

MR. WOODY: In view of the fact that we lost some time this morning by NTSB's late arrival this morning and ah, the interruption that we had with the arrival of um, these extra NTSB investigators and taking a break. I am going to defer asking the few questions that I have and go directly to Dr. Strauch, who has come here while he was in route to ah, Singapore. Dr. Strauch.

WIT: Hi, doctor.

MR. STRAUCH: Captain. Good morning. For the record I go by Barry.

WIT: For the record I am always impressed by people that have put the effort in to get a Ph.D. and it is very impressive to me to do that and so Barry I thank you, but I think that the doctor title is very impressive and that is good.

MR. STRAUCH: Thank you sir. Um, as you, as I, ah I know that you are aware. I have absolutely no experience with submarines. I have absolutely no experience with the Navy or with marine operations in general. So from me for the record could you explain what a Chief of Staff Officer does and what you are responsible for?

WIT: Yes sir. Ah, the Chief of Staff Officer for the Commander Submarine Force, U.S. Pacific Fleet is responsible for ah, first of all is a direct ah, liaison through the Commander Submarine Force, Pacific in carrying out his desires ah, and wishes and ah, and ah, plans for the organization. I frequently interact with him daily, hourly if he is around or by e-mails or phones and we ah, we work together closely. I am also the Commanding Officer of the Staff of Commander Submarine Forces, Pacific. All of the enlisted personnel are responsible to me from the standpoint almost to the point that the admiral isn't to be bothered by some of the more mundane issues that crop up. I do evaluations, I hold captain's mast if necessary, I ah, manage the administrative and ah, detailed responsibility of the staff. There are ah, I guess nine divis - - departments that are on the

staff that cover from personnel to maintenance to ah training, to ah financial, to ah intelligence, ah protomatics and planning, ah future out years, budgeting, ah budding resources for the future, and also the SSBN operations, which are separate from the SSN operations that the like, CAPT Kyle he is the head of our N7, while he reports directly to the admiral many of the things that we do on a routine basis is done through me and, and screening those from the admiral and getting together with the staff to accomplish submarine forces pacific evolutions. Finally, when the admiral is on travel or unavailable or as he discerns with other commanders who report, who have the ships that are there squadrons, they for routine and administrative things will ah, check with me on you know, okay to handle things. That is where that, they would have direct access to the admiral. They can see and talk to the admiral at any time from that I am not an impediment from that. But many of the more routine planning, scheduling, and coordinating of events if the bigger vision is articulated from the admiral the squadron commanders and I go through to articulate. So ah, some people would say not me, so people would say that the Chief of Staff for the Submarine Force Pacific or Atlantic is the guy that runs the submarine force on a daily basis.

MR. STRAUCH: Okay.

WIT: But that is not what I say. That is how the job was explained to me when I took it. The admiral runs the submarine force. I institute the policies that happen.

MR. STRAUCH: You had heard that a former CINC had um, had um, made the request for the visitors. Is that correct.

WIT: Yes sir.

MR. STRAUCH: Um, how did you hear that?

WIT: Um, two ways. One was while I was on travel on the USS GEORGIA, I came back to my office and there was a ah, note for me to call Admiral Macke. And in fact I did send him an email. I tried to reach him--did I say, what a minute. I tried to reach him by phone and left my name. I tried to reach him by phone and left my name. But I think when I you know, the subject was on the pink slip and was a submarine visit, you know two words. Ah, but during the time that I was gone, he probably became frustrated that he didn't get an answer so I think that he went directly to the admiral. The next thing that I knew was that there was a visit. Let's say, no I don’t know if he went

directly to the admiral, he may have went to my acting if I wasn't there and maybe they set it up. But either way, it was a direct interaction from the admiral COMSUBPAC front office, to say we would like to do some type of a visit. And the visit was set up while I was gone on this ship on this date and I looked at it and I said "okay".

MR. STRAUCH: It sounds from the way that this is described because of his ah, his ah, rank or stature that the rank that he held and the stature that he holds that there was some special handling and treatment of this visit. Um, was there anything different in handling this visit in any respect than in any other civilian visit?

WIT: The true answer is no. The amplification would be the following. If ah, if the ah, if you ah, I don't know if you are married, but if you called sir and said that I would like to go on a visit to a submarine and would you please arrange a submarine visit for me. The answer would be, not in your position, as who you are in the National Transportation Safety Board, but just anyone of ah, a hundred million of United States citizens of America, the answer would probably be well, we appreciate those that are handled through the proper channels and if you can get together with a PAO or if you know somebody from the ship or if you know some reasons, we will always try to, we will offer you a shore-side walk through. We will try and do and honor that request, because you are a citizen and a taxpayer and somebody who we work for. But no, you probably wouldn't be able to set up a visit on a nuclear submarine going underway at sea. But now if you are a, if you are a ah, elected representative, if you are a member of the either the professional or the personal staff of the Congress of the United States of America, if you are a knowledgeable ex-military person who understands what the military does and can articulate to another military person why you think that is beneficial and then we would take a look at it or if you are a Chamber of Commerce, you know an expert or an expert in a certain area that we are trying to explain or does are the type of people that we will take a hard look at sir. I even think that Admiral Macke falls into that category of people that have, have that.

MR. STRAUCH: Okay so then the treatment was only, and I am paraphrasing,----

WIT: Yes, sir.

MR. STRAUCH: Only in respect to ah, allowing them access to the sub, but once they entered the sub was there any different treatment of, of them. The way operations was run, even the, um specific operations that were conducted for them, as it would have been for somebody else um----

WIT: Came onboard as visitors or something, no sir.

MR. STRAUCH: Okay.

WIT: No, sir.

MR. STRAUCH: Thank you.

WIT: Let me qualify a little bit sir. Different submarines, commanding officers of submarines of ships at sea still have a very wide swath with regards to how they conduct operations on their ship. I don't think that you asked me is that what would happen on USS CHARLOTTE or is that what would happen on USS CHEYENNE or is consistently the same way that it happens all the time. Different CO's handle that in different ways with regards as to once people get onboard their ship.

MR. STRAUCH: Did you sense that CDR Waddle was acting differently because of who had arranged the visit?

WIT: No. No, he has done this before, VIP visitors or distinguished visits and ah, as a matter of fact one of the group of people came onboard one of the two people came onboard were people that he had met a couple of days before and he took the opportunity to extend to them the invitation to go onboard and go with this group of people, because he had met them and had decided that would be the thing to do. So that type of discretion is his. Once you are doing that it is his to carry out. No, I didn't sense any, any difference in doing it.

MR. STRAUCH: CDR Waddle was kind of enough to provide us with his most recent proficiency evaluation. Um and just let me read a little of it. "CDR Waddle has shown exceptional initiative and pursuit of excellence and outstanding leadership skills. You must select for major command. A top CO, outstanding mentor and operational leader. Ready for major command". Um, and I guess these were different dates?

WIT: Yes, sir.

MR. STRAUCH: Um, were you aware of the tone on the fitness evaluation that I just read?

WIT: Ah, officially no. Because those are signed by his immediate superior in command and that is the squadron commander, who--I alluded the squadron commanders have dialogue with me about many things. Ah, about things--but that is his evaluation of the people that are in his squadron. You can see if it is ranked somewhere or another. There is a ranking system and things of that nature. Officially no. Unofficially, does the squadron commander come and say "okay, skippers x, y, and z are doing a great job and I am really impressed with them or skipper of a, b, and c is having some problems and what do you suggest and how do you think that we should work with this", yes sir, yes sir. CDR Waddle's reputation on the waterfront since I have been Chief of Staff of Submarine Forces Pacific from the 6th of August of last year which is about 6 and half months has been very good, very good.

MR. STRAUCH: Average, below average, better than average, the comparison being other sub commanders?

WIT: Average to better than above average and the only reason not above better than average across the board is because he hasn't deployed for six months to the China or the Western Pacific and we put a lot of, this is all, everything that we do is based upon you going on that six month deployment. And that is where you earn your spurs and you are absolute recommendation and that. So everything that he has done in preparation to do that if you only took that segment of it probably above average. But from a standpoint that he hasn't really been tested in the arena where we ultimately test. The jury is still out to be determined. And never will be obviously.

MR. STRAUCH: When you went out on the, on the vessel the day of the accident was that the first time you had seen him in command of a um, of a vessel?

WIT: Yes. At sea, yes. I would see him with his crew you know, hanging around at social functions or at meetings or training functions and stuff like that, but not at sea.

MR. STRAUCH: And up to the time of the collision, it sounds that you were impressed with his performance?

WIT: I was certainly not concerned about it. I certainly felt that the image that and words that had been past to me were not

in ar - - not in error. But sir you used the term impressed, I, I, I, I alluded to you earlier that if nothing would have happened I would have talked to him about what we had said we would talk about. But I talk to every CO, that is our business. We're, we're, we are--nuclear training we don't normally walk up to a guy and say "hey you are really looking good and you did a really great job", and things of that nature. If we normally walk up to a guy and say "that was a really nice job, but here is a couple of things that you ought to think about", okay.

MR. STRAUCH: Alright, that does clarify. And you said what you would have said to him. Um, did you notice anything up to the time of the collision that he did that was contrary to your expectation? How a, a commander or CO should act?

WIT: He is the expert, but he is more aggressive and outgoing than I am and so, I am more conservative and cautious. He is more, more outgoing and his persona is large and his image is and you know, and, and is that wrong? No. Is that something because of my experience of where I am and what I would have talked to him when we left would have I said something about alluding to the fact that you have to understand that you present a very comfortable in-charge image that is going to cause people who may have some reservations not to all the time; if you have to handle, if they come to you and say that they have a reservation, pay attention. Because they are not going to do that easily. They are not going to do that easily.

MR. STRAUCH: Okay. Did you see him do anything wrong?

WIT: No. Can be I, I did not go out there as an inspection team to critique everything that he did. I was talking to other people, I was, you know I watched very carefully when he came to peri--I told you the things I watched about, you were here. I watched very carefully. Did he leave me with the impression that he and the ship's crew could handle those situations? Yes. Did I peel back the onion to the point where okay did you whatever that little procedure that we had here just a minute ago, did you do everyone; did you concentrate on this sector here for five minutes and did I time it for four minutes and fifty seconds and say that you didn't do it for five minutes? No. No.

MR. STRAUCH: Some people have commented that they was no briefing done before they went to periscope depth I believe----

WIT: I don't know that. I mean, I was in the back corner and he said that they were going to proceed to periscope depth, what constitutes a briefing that is a complete briefing that is done on one ship as compared to a complete briefing that is done on another ship is, is a functionality. Even though there are procedures it is a functionality with the person in charge.

MR. STRAUCH: So the fact that you said what you would have said to him afterwards did not include any allusion to quality of briefing means that, as you observed that or that you saw even though you were not there to inspect, you were satisfied with the briefing that he conducted?

CDR CACCIVIO: I think, this is CDR CACCIVIO. I, I'll ask the Chief of Staff, but I got the impression that you just said that he did not hear the brief. He got indications that they had ah, that the preparations to go to periscope depth were going on, but I don't know, did you actually hear----

WIT: I didn't hear the brief. But I mean,----

CDR CACCIVIO: That is good. What I would like to clarify that because the concept of a periscope depth brief can be based upon the scenario of a lot of things. Okay. In a slowed controlled environment I can stand in the middle of control and muster all my watchstanders in here and in this booming voice you hear right now, I can articulate everything I am going to do and everything planned to do. All the emergency conditions of what I expect to do. That said, if I go to periscope depth and come back down and decide that I had missed the passive broadband sonar the radio broadcast did not print out then I am going back up fifteen minutes later to get the broadcast I may not need to do all that again and I may have a very quick discussion with the sonar operators and tell them that this is the course that I am going to come up with and this is what I am going to come up with, that I don't expect sea state to change I just want to make sure that my contacts situation, how it has changed, I understand in radio that definitely you are getting the broadcast at this time. Okay. In a situation like this, with this many visitors onboard we have already indicated that watchstanders in some cases there mobility was a little bit limited over on the forward end of control right by the CDP pod. I may talk to each one of my, as the officer of the deck, I may brief each one of my watchstanders individually in which case it would not be obvious to other watchstanders that anybody else had been briefed unless they asked me if I did. So I may as the office of the deck, I may have turned to the Fire Control

Technician of the Watch this is my plan for going to periscope depth and this is the course and speed, this is what I think the contact situation is, and which you think it is, here is the things that we are going to do. I may, the objective of this would be two-fold. Number one, there may be conversations going on in control for the briefing for the people that my brief may interfere with so therefore I am not trying to contribute to the background noise and distract watchstanders. Okay in the spaces. So I may go into sonar and talk to the sonar supervisor separately at the door, I may as we allude--as we discussed earlier--it is apparent through several of our conversations with the officer of the deck was standing right behind the officer, the diving officer console. I may stand, it is not uncommon for me as an experienced OOD to stand right behind my shift control party and talk to them very expeditiously and tell you things that the FTOW would never hear because we were talk very specific ship controls evolution, but I would cover all the attributes. Is that a longer way to do it? I would think that it is cause now I have to talk to several different groups. Is it a more throughout way of doing it? In a way I think that it is. Because I have now had several conversations with several different people and covering the same plan four times in my mind and I am the single point of contact that meshes this altogether to make sure this works. So I think from that perspective that I ask you not to confuse the fact that while the Chief of Staff may have had indications, that you know, we went around that time that you expect a periscope depth brief to occur the fact that the ship indicates that they are ready to go to periscope depth I would assume that they had prepared themselves adequately based on their accession of what they need to do and how they needed to conduct those briefs. But it would not be unreasonable to believe based on his position as we already heard from the FTOW he may have not heard those discussions, specific discussions going on.

WIT: I do know what I said, that he did put the XO in sonar because he was concerned about the ASVDU. I said that and I--and the other thing that I think--doctor if I may—is, you know, I don't want to downplay it but there is submarines out there operating right now all over the Pacific that have people, officer of the deck and commanding officers making decisions about going to periscope depth on a routine basis. And you never want to say that you let your guard down and you never want to say that you kept your guard up but it is an evolution that is not like, it does involve human factors, human people and even how you, how you handle it. You know, the CO and the OOD talk about wanting to go to periscope depth and yeah he

talked to him and I saw them talking from the back of the room. What did they say? I don't know. So then he told the XO to go to--so when you say was there a brief conduct, that's why I hesitate, I am not trying to hide anything or not trying to-- there was a conversation, I was not party to the conversation. And those part of the conversations were individual and what constitutes them. I am not trying to be Clinton either, but you know I--but don't take that wrong either; it was just the definition of it is. I am not trying to say that his brief, but he understand why that is important. What constitutes your definition of a brief and in regards to when you ask me that yes or no, versus what I think a brief and thanks for listening for a minute and thanks John, but there was a discussion about going to periscope depth, there was obvious knowledge of the ASVDU not in commission, and the XO being over there. There was FT of the watch who knew, although he was way over there I knew that the ship's control party knew that we were going to periscope depth and they knew what their operations getting ready to go to periscope depth was spot on, right there. I mean, ah, what constitutes a brief, I don't know. Thanks.

MR. STRAUCH: Um, the ASVDU was not operating as you said. They are aware of it and so on. Was the decision to proceed as they did knowing that the ASVDU was not operating, was that a decision, in hindsight, do you think was a good decision?

WIT: In hindsight. With the XO going to sonar, I feel very comfortable going with the decision. And you have to realize that the ASVDU is a backup for the officer of the deck to analyze what sonar is telling him, himself. To look at it personally. Sonar gives you all this information, but we spend a lot of time analyzing the screen for information and stuff like that. You had, I don't know if you had a chance to see it, but the information just doesn't come out the same as a contact. It is waterfall display of noise in the water which of those noises is a contact. So we call it recognition differential. We would like to increase the number of people that have the recognition differential, so by the ASVDU being out of commission, but by placing the XO in the sonar to watch what would have been displayed on the ASVDU counting on the fact that the XO and the CO have good communication skills, I was comfortable that we covered what we needed to cover, for not having an ASVDU unfortunately.

MR. STRAUCH: Okay and you answered my next question. I appreciate that. Um, and if already answered this then, then forgive me. It sounds as if that the crew compensated for the

lack of the ASVDU ah, by doing what you said they did. Um, can one compensate one hundred percent with the lack of the ASVDU not working, even doing what they did, having the ASVDU out of, out of service degrade their awareness to what was going on in any way?

WIT: A couple thoughts. What did the XO do when he was in sonar? I don't know. I wasn't in there. Did he actively stare at the screen and talk to the skipper or decide himself that, that was--in addition to the sonar supervisor, the sonar operator the normal watchstanders who were there, did he actively look at it and say that there was no issue? I think, I can't swear to it and I wouldn't, but I think the commanding officer made a, a you know, a walk, a couple of those steps towards sonar and took a look. Now he walked that way. Did he walk into sonar? I don't know. I don't know. I don't know. Did he, even if he did walk into sonar, did he say XO is this okay, are we okay, or did he actually look at the ASVDU himself? Now here is the answer to your question is I think. Can you compensate for this? You raise the scope, you are getting ready to go to periscope depth, checked everything that your ESM contact receivers are working properly, and that you know that your optics are set and things of that nature and you say to the dive, "dive make your depth six two feet". While you are transitioning from one five zero to six two feet on a normal ascent to periscope depth where is the ASVDU? Right there. Can you go like this? Check about one or two contacts, then you maybe, if you had contacts at all or whatever. Okay, are you still there, the check is in my mind. Can you compensate for that? No. But otherwise I think that you can compensate for that. And remember again, I still think that it is very important. The ship got to periscope depth without having any untoward incidents going to periscope depth. Now I understand logically, I have been here many times sir, during tense situations yep, if you would have known about it better earlier, would you have concentrated on that bearing and looked harder and stuff like that. Those are all things that appropriately determined. But the issue still is the ship got to periscope depth, was at periscope depth, it had two operators, and a ESM sweep who were available to give them additional information and then, then didn't see it. They didn't correlate the information.

MR. STRAUCH: And it sounds like um, and this is my question. Do you believe that the crew did everything they could to detect the vessels that were out there? Is there any more that they could have done that they didn't do, in your opinion?

WIT: See, that goes back to a question that somebody asked earlier about what did we look and this you know, what does, does that procedure say in regards to doing periscope detection? What does the procedure say in doing target motion analysis passively and how much did we follow the procedure to the academia written rules versus how much do we use the human factors on the interpretation of the data on the scene and knowing from a lot of experience? Being the skipper with eighteen years, XO with fourteen or whatever they got, those are approximate numbers, please don't, you know, those are normally about the norm. With the sonar supervisor who's got twelve to thirteen years submarine experience. Fire Control of the Watch and everything like that. How much did we, did we you know, deviate from the perfect pristine written instr--not instru-- academia method of doing it as compared to the human factors and the insane conditions that we saw that day off of Diamond Head. Ah I, ah I, I was talking to people, I wasn't to the point that I was ready to step in and say to the Skipper, "I am going to embarrass you in front of fifteen people and your crew and everything else" and say you know, "hey Skipper, you ought to do this, you have to do this". I didn't do that. I didn't do that. And obviously you know this. All you of you know this, you do this all the time. Do you examine things a hell of a lot more after the fact when you do, what are we talking we are dissecting something here that happened in five minutes, five minutes. I mean, you know any one of a million things could have happened. Any one of a million things could have changed.

MR. STRAUCH: What could they have done more? I know--

CDR CACCIVIO: This is CDR Caccivio. No, I know we are getting close enough for a break. But I have to make sure that you know that the question was answered. Because the question I think the Chief of Staff answered the bigger question. Your question was "do you think that they could have done more to detect a contact", to detect as we have discussed previously, when we were talking about the functions of a sonar operator. Tag, track, and classify. Initial aspect is detection that is the ability to take a target and to determine that it exists with some sensor on the ship. So we are now talking fundamentals were as now you are, the question that he answered I think that you were going to drive that way. The ability to take the data. Is there anymore that you could have gone to take the data and look at the data to develop a contact solution to it, to properly access the contact environment. Did you want to go back, are you trying to pursue whether there was more that could

have actually been done to get a detection on this guy? Because I think that we have established that there was this data available on the contact.

MR. STRAUCH: I am not asking so much about interpretation as much as was there any other, any other steps that they could have taken to obtain more, more data rather than; is there anything that they could have done to interpret?

WIT: Things that we don't do that are ah, we didn't do active sonar. We already talked about that.

MR. STRAUCH: Right.

WIT: When he was at periscope depth we didn't raise the radar mast which we normally don't do if we are going right back down again. But is the radar a electronic sensor that if you took the time to break rig for dive, open the lower hatch, unplug a couple of, which we never do, Doctor. We don't do that. But I mean if it's the theatrical what else is it that you could do. Ah, there is a couple of things that you could do. You could radar, you could radiate on radar, you could do active sonar, you could sit longer in ESM and listen for all the radio stations that are off of Oahu and disseminate them from radio emitters that are coming off the, off the air lines and stuff like that. Is that going to extinguish it out against this one radar in this category.

MR. STRAUCH: Is it fair to say that at the time of the event, up until the time of the event, you were satisfied that everybody on the ship had done everything that they could have done?

WIT: No. That is not fair to say and you are not going to get me to say that. You won't get me to say that because you have the advantage of being able to look at all the logs and all the records and stuff like that, that I didn't look at, sir. I know what they are supposed to do. I know how the ship is supposed to be driven to do that. I know that they put the XO in there. I know that the FT of the watch was stationed, but I wasn't standing over there over his shoulder watching him stack the dots to see whether or not if he was getting a solution on that contact. I wasn't in sonar to see if they had passed the information out to the Fire Controlman of the Watch. I wouldn't know that. So you won't get me to say that they you know, you won't get me to say that, sir.

MR. STRAUCH: From what you saw? From what you yourself saw without soliciting, giving into the position that you have had on the ship, as an observer not as a inspector? What you saw you felt at the time that you were satisfied? Is that fair?

WIT: We had a collision. Ask--I mean we had a collision. We don't do this, this is ah, we don't do this. So what do you wa--can we turn this off for a second.

MR. STRAUCH: Sure.

CDR CACCIVIO: I believe that you were questioning.

MR. STRAUCH: The um, you said that the CO took the scope, with the periscope and then um, and ordered the OOD to raise the depth. Um, do you remember what that level was?

WIT: No.

MR. STRAUCH: Ah,----

WIT: Five six, five four. You had asked do I remember what the level was? It was five six. Do I ever remember looking at the--did I ever look and see if we actually achieved that level, no.

MR. STRAUCH: Um, could one characterize that asking to go to a higher level is a sign of prudence?

WIT: Oh, absolutely sir. That was a check in my mind that it would be that way. And if I may, my mind is starting to race again, and for the record I would like to say that I am sorry for the delay today, we had some other work that we had to do and I appreciate your understanding and working around those couple of hours from 1115 to 1330. So thank you very much gentlemen, I appreciate it.

MR. STRAUCH: Um, you ah, you said also that ah, your role was ah, to accompany the civilians among other duties was to ah, you are aware that the CO's presence as had an impact on the OOD. What impact would you feel that your presence had on the CO?

WIT: Ah, he is cognitive--aware of--that you are onboard. He greeted me. He knows that I am senior as far as organizational structure in the Submarine Forces Pacific. He knows that I have got a lot of experience beyond on what his is and ah, we talked, briefly. I do not believe that he in any way shape or form was deferential to my presence through the operation of his ship. I

had many--as a squadron commander I had ridden many because I was the immediately the next in line. You know the signature on the fitness report; I was the guy who signed that for a group of nine to ten CO's over time. He cognitively knows I do not sign his immediate evaluation and he knows that I have overall view of the submarine force in the world and I don't think was ah, trying to do anything either (a) impress me or (b) not impress me. I think his focus was on running his ship and hosting the visitors, not on anything in regards to me.

MR. STRAUCH: It is fair to say that someone were to let's say forgive me for this choice of words but "cut corners", ah, your presence would tend to work against them?

WIT: Absolutely.

MR. STRAUCH: That if anybody would go more by the book then they would otherwise because of your presence?

WIT: I said absolutely, I would stand by that. I would think that people would want to be professional as they could knowing that any senior officer is present, was onboard.

MR. STRAUCH: You also said that in your opinion the crew did not--was not pressured into getting something done. They ah, they ah, weren't pressured to bring the ship back by any give time?

WIT: In my opinion no. In my personal opinion definitely no. I ah, I will be honest with you I wasn't even cognitively aware of what time that we were supposed to come back. I just knew that we were to be out here for the day and if you look at my schedule maybe there was something like four o'clock in the afternoon that I was going to meet somebody. But there was clearly no pressure by me at all, I didn't mentioned the schedule to anybody on the ship all day. And secondly I didn't perceive any pressure to ah, to make that. Now putting it in a broader context do most sea faring members pride themselves in being underway on time and being in port on time the answer is yes. The answer is yes. And ah, over historical perspective we take that as a measure of our, of our nautical skills and our ability to manage the situations. But I did not sense any undue pressure. Nobody came up to me and said "hey captain we are running a little behind or a little ahead", or anything like that. There was nothing like that. Nobody, nobody from the ship's crew.

MR. STRAUCH: Um, one of the few things that I have learned these last few days is that and as you said that sonar detection is not, is not a pure science there is also a lot of art involved. I guess, I guess um, my question is that is it fair to say that there is a lot, there is um, interpretation involved in detecting other vessels through sonar?

WIT: Yes.

MR. STRAUCH: Therefore is it fair to say, um the um, the reliability or the accuracy is less than one hundred percent?

WIT: Nothing is absolute. The level of the qualification, his experience, the amount of time, the in situation, the sonar conditions, the surrounding contact conditions, the thermal climb, whether if you got whales and shrimp snapping in the background, whether if you have merchants contacts, whether if there is, you pay a lot of people ah, a lot of money over time to become supervisors to become professionally trained, how you interpret the information that is displayed in the sonar system to allow us to distinguish the what is something of concern versus what is something is not of concern.

CDR CACCIVIO: I think that the word that you want to use is the probability not the reliability. Reliability implies in which a piece of gear, in which an event would occur that would cause it to break down. That is not the issue. Through prevocational lost curves, computing programming, a lot of means that we have to us we actually predict the probability of an operator contacting a signal, in an alerted state. That assumes a series of conditions. That assumes a certain environmental conditions, that assumes system performance considerations, that assumes a certain oral hearing acuity of the sonar tech, it assumes visual acuity of the sonar tech, that is why we call it a figure of merit and a range of the day based upon the average sonar operator. We know that is fifty percent of the time we will get the detection from that operator from that range. Where we know because of that the bell shaped curve is based on that. We will also have operators you won't detect on that. We will have operators that will detect it earlier. I think your question was about probability of detection and not reliability. Reliability will be associated with the equipment and its ability to support providing it was just added to the operator for aural or visual detection.

MR. STRAUCH: Ah, that was the point that I was trying to get at was probability of detection. And you used the words figurative and what was the other one?

CDR CACCIVIO: Range.

MR. STRAUCH: Does those figures are determine everyday? How does that work?

CDR CACCIVIO: This is CDR Caccivio again. In traditional sonar analysis the figures are determined on a daily basis, based on the current acoustic environmental conditions that you are. They will be update based upon the ship's location which obviously the acoustic environment will change based on if the ship's position changes. Therefore ranges of the day were I predicted that the operator had alerted, the operator would detect the contact fifty percent of the time would change. Um, with some of the advanced ah, acoustic data aides that we have onboard now that data because we can now through the introduction of commercial off the ship processing we can now update that data very quick rate. So I would tell you that data is sometimes refereed to as the range of the moment. In which case the operator would now take a program that we have a multi active a ah, I am trying not to use a acronym, I am trying to say what it stands for. Basically I have a sonar lost type program that allows me now to predict the ranges of the day and the probabilities of detection now at a much quicker rate. The operator has this available to him all of the time. So based on the current changes in the SPD he can rapidly update that.

MR. STRAUCH: Would these figures calculated for the GREENEVILLE that day. How does it work? Is it for an area or is it for a ship in an area?

CDR CACCIVIO: It is typically, it is typically based on historical sound velocity sound profiles in the area that you expect to operate. And then when you go out to the area you will sample a sound velocity profile and if it differs significantly then you will ah, enter that data into the ah, you would basically search that data so that you can get a more accurate search.

MR. STRAUCH: Do we have a, that information through the GREENEVILLE at the time of the accident and throughout the area at the time of the accident?

CDR CACCIVIO: Do we have it here at the board? Is that what you are asking?

MR. STRAUCH: Yes.

CDR CACCIVIO: No it has not been requested.

MR. STRAUCH: If we were to request it, do you think that data would still be available?

CDR CACCIVIO: I would think, I would have to check, I mean there is obviously some classification issues based on the historical data they would extract from. But I think that the local SBP I could get to you, it would still be available. It is typically, I mean in this type of scenario it would be a BQH7 trace. A BQH7 trace and we would have to find out whether it is available.

MR. ROTH-ROFFY: Actually, I, this is Tom Roth-Roffy. We have requested the SBP.

CDR CACCIVIO: Okay.

MR. ROTH-ROFFY: Now is there something beyond the SBP which would involves these other issues that you discussed with ah, with Barry. Figurative merit, and probability of detection and all that stuff?

CDR CACCIVIO: Maybe we should continue with CAPT Brandhuber and if you want to discuss more data and then we can extend into what I was talking about.

MR. STRAUCH: With the probability of detection then and as I understand it is can be updated at ah, as needs change, as conditions change for that particular vessel. Um, is that correct? Am I understanding it?

WIT: Periodicity again. We normally, it depends if you were going to deploy either locally or anything else. We normally would sample the sound condition in the water by either depth excursion on our own, going to test depth and back up which only sample a small column of the upper portion of the depth of the water. Or we can launch bathio thermic device that can sample down deeper than what the ship capability is and get that data to come back via wire. I don't believe that was done that day. The depth thermic device, there would be no particular reason that we would do that for a short underway like that. And ah,

it is updated as ah, conditions warrant and the people get that updated information and process that now there may be some newer technology off the shelves that allows as the ship normally changes depth were it is feed in automatically that I am not aware of. But that is ah, normally how that type of thing is done.

CDR CACCIVIO: Maybe I can clarify something. The significant reason for doing that. Would be for searching for hostile targets for weapons placement. TO conduct operations in the local area you don't require those types of updates on a frequent basis. So the point here of what you are asking for the SBP is determine how far, what do we expect a reasonable approach for detection to be in this ship's characteristics in behaving with respect to SBP in changing up and down in depth so the imap program that I referred to would not be ah, would have not have been used we would have to ask the ship. I mean, I wouldn't want to ask them to recalculate a search plan because that is specifically. You would not find commercial vessels in the search plan because we don't typically search for them for the purposes of searching for weapons placement.

MR. STRAUCH: Then, then that is a good point which I'll get back to. What kind of probabilities of detection ah, do you accept or that are the--what are the general probabilities for detection?

WIT: Yes, sir. That is a technical question. So I would like to defer the technical and I'm----

MR. STRAUCH: Excuse me?

WIT: That is fine. That is fine, please, please. That is fine.

CDR CACCIVIO: That is really not expressed in a--what you are really trying to do from this. We are looking for a probability of detection of fifty percent for the alerted operator. And so what we really want to know is what is that range course based upon the propagation, a loss associated with a source in water. So what we really want to know because obviously a lot of variables that change here. Where is the target aspect, the acoustic environment, interfering things in the water, other contacts when they interfere with the propagation of the sound, the operator may not have been as alerted as I would like him, he may be distracted by another contact, it could be a much stronger contact right next to another contact. So therefore it

is masking it out. So what I really do is that I come up with a probability of fifty percent, a fifty percent probability of detection. I try to translate that into a range based on a acoustic environment so that I know that if that I detect, when I go out for the day I know that I would expect to gain a merchant at a specific range. So, no matter what you ask all today, when you asked about how you guys determine ranges off of sonar for the last several days if I know nothing else and I gained a guy I know that I should have assigned him a range commiserated with my fifty percent, I mean my range of the day, because I, because I just describe it. A lot of factors effect that. Typically the operators are trained to look at a band of ranges around that range because we know for all the reasons that I just described to you it could be closer it could be further. That is the same reason when the Fire Controlman of the Watch was in here we described that he would also assume a closing solution, he also assume a ten knot solution, because that is what we feel merchants transit at. A closing situation is much more hazardous to us. So we are assuming all of those conservative strengths that we can, until we can prove otherwise. So that is what we are really trying to get. That is the range that we would expect to pick up a merchant fifty percent of the time.

MR. STRAUCH: Okay. Alright. Again I appreciate that explanation. It appears as if at the time of the accident ah, that the target, that the ship, that the vessel that you collided with was actually detected. It hasn't been determined yet. The evidence at this point suggest that that was the case. But that several people misinterpreted it the track, so the issue may not be so much as one of detection as interpretation. Um, and it looks like that if that is the case, the interpretation of the data is at least as important as detection of data to begin with, is that true?

WIT: That is accurate.

MR. STRAUCH: Have you seen this happen before? Ah, or have you seen it happen. That experienced well-trained people have detected targets and have misinterpreted them on basically routine conditions?

WIT: Or I would add to that, ignore the indications of what the information would tell them for various reason. I think that I want to clarify a couple of factual things that I don't think were clarified, I don’t think that we ever talked about. I want to tell you about a couple of factual things that from my

prospective occurred here. I have not been privy to the investigation because of my position of being on the ship. I don't know what the preliminary investigation or what other information has gone on in this. I heard rumors, you can't be alive on the island and not hear rumors. But I will tell you factually that because of my position on in the ship where I showed you and where fire control and where sonar is and what with the ASVDU being out of commission. I was not cognitively aware of any contacts at a--before periscope depth. That is something that you, that is what lead me down this thought process is what you said that people ignore and what is the reporting requirements. Sonar normally, with operators standing there trained and qualified operates the sonar equipment that would allow them to make those types of determinations based on range of the day looking at the different displays of information and noise spikes and spokes and determine which one of those is a contact of interest and assign a tracker to it so you can get information out to fire control, so that you can report it to the sonar supervisor, so that you can report it to the officer of the deck, and say that I have a new contact bearing whatever described to be da la da da. Ah, those type of, of descriptions and events that happen on this particular day. I because of watching this and talking to other people. The skipper and the OOD and the XO were in sonar. I didn't go back to them and say "excuse me show me before you go to periscope depth", like we would if it was the OOD under-instruction before the first time that he goes to periscope depth. The sonar, I mean the Captain would stand there and say "okay mister officer of the deck, please explain to me what it is, why do you think this course and speed, so you could go to periscope depth". Well because sir I have cleared baffles this way and I have cleared baffles that way and due course and speed is in the line of sight, I have had this contact and I think that his range is at and this is wear it is. That was not a report that was made cognitively made to me nor would I expect it to be made to me. Now if you were like a PCO operation or an OOD qualification that type of report might have been expected to be made. The other point that I think is germane on that is that the skipper throughout the OOD, told the OOD, that we needed, we wanted to go to periscope depth, that was clear, I mean that wasn't, to me it wasn't "god darn it, get to periscope depth". It was make preparations to go to periscope depth. The OOD, I didn't again sit there and critique how many course changes or what he did to do that because the skipper was on the CONN with the OOD, they had a team that has done this a thousand times themselves and as I said, they are turning, they are cognizant of that. How long they turned for and how long they

turned back for, I really don't know. That type of thing is done, once again they got to periscope depth, they didn't see anything. I, you know, I didn't focus on doing the TMA myself.

MR. STRAUCH: Okay. You said that you have seen experienced well trained people misinterpret the data on the sonars.

WIT: Absolutely.

MR. STRAUCH: Um,----

WIT: The consequences of that.

MR. STRAUCH: Not the consequences the cause. What do you think, when you have ah, seen this situation occur, what lead to that misinterpretation? Or these misinterpretations I should say?

WIT: First thing that comes into my mind is ah, possibility of familiarity with, hear some noise spokes that are on here that you think are noise spokes that in fact turn out to be something other than a noise spoke. Ah, I am thinking strictly from the sonar detection point of the moment. The idea that umm the sound conditions are just not what you think are because you took your sound velocity profile five minutes or five hours or eight hours ago and you went into an area where there is run off, there is differences in the thermal climate temperatures there, there is differences in the biological background, there is difference in the density of the water and all of those things have an effect on sonar performance. And so just because you have geographically positioned the ship in that area will affect your ability to recognize and initiate appropriate action. Ah, I, I would say the possibility of inattention is certainly one that would do that. That is my perspective that is very, very seldom or if at all, based on that you know, we have operators that are qualified, we have sonar supervisors that are qualified, we have officers of the deck that are qualified, who are all functioning and focusing on this particular evolution at that time. And ah, obviously historically that has always not been a problem.

MR. STRAUCH: So it is fair to say, based on the times that you have seen people. Technicians and other highly qualified people misinterpret the sonar data. Thinking about it afterwards should you have gone back to them and said "just try a little bit harder next time". It sounds like if it would not have made a difference?

WIT: Not a guarantee. Not a guarantee.

MR. STRAUCH: It is not a question of not trying hard enough. It is really a question that the conditions were such, that their initial estimations were off, is that a fair----

WIT: Sometimes, that is a fair assessment sir. And sometimes it is the other way to. Sometimes you know, we have this sonar equation that we talk about and one of the things is NRD. You know Noise Recognition Differential. And ah, we have taken some of the human factors into that. Cycle people off and on, on the sonar stacks. If you sit there for awhile and you are looking at the same thing after awhile it becomes available to you. It has all become factored into the way, the way that we look at things. So ah, you know ah, some there is a lot of things. I mean, I wouldn't say--it could be other things to I guess is what I am saying. I wouldn't be just that.

MR. STRAUCH: Could you, what are some of those other things are. You mentioned fatigue for example.

WIT: People you know, we normally rotate people in and out of the watchstations so that they can not sit there and be, not that they are physically fatigue, meaning not enough rest and not enough sleep the night before and the next watch before, but fatigue from the concentrating on something for a long period of time and what's the amount of time that you get a differential like that. Obviously the fatigue issue of have you been well rested and did you have all those types of fatigue related issues. Ah, you know we, we kind of kid about it sometimes, we call it in sonar is sometimes for lack of a better term, not quotable term, but prima donnas because sometimes the rest of the ship will say that the temperature has to be just right and the noise level and the background level they got to have a chair and that they are comfortable sitting in it and stuff like this, because we, we, considered our self over time that these people's recondition differential is highly peaked so that these people can be the sensors of this ship who's passing through columns of water ah, with at high speeds just to detect those types of things. So I think that all of those factors would play into it. Level of training, junior person versus ~~scenario~~ senior person. ~~Scenario~~ Senior person sits there and looks at it and goes, I have seen this twelve times before haven't you recognized it and this is the first time that he has ever looked at it and he is going "no, this is the first time for me shipmate." I have been through the training and I have been

through the schools. How well did I do through the schools? Did I pass the schools at the low end or the high end? You know all this stuff. But this is the first time that I had seen it in situ--situation and the supervisor goes that's it, that's it. Then the kid goes you know I thought that I heard something in my ears, but because you were busy talking to him, I thought about it and I just said "Nah, maybe not, maybe not."

CDR CACCIVIO: One thing that you described sir, one thing that we need to keep in mind here is I think the Chief of Staff is giving you answers to cover a broad gamut of high tactical situations require. Where you might be more focused on the situation that occurred the other day. This target that we are talking about, the Japanese fishing vessel. The geometry is a very simple geometry. A lot of the issues where the captain may have seen issues the tactical situation may have not been recognized or associated with highly mobile targets such as other submarines or other ships that typically maneuver on a random basis. Those things, the recognition of the data is much more complicated for us than slow moving quiet targets, high speed moving targets, operating in the submerged environment with us, maybe maneuver and conduct several other evolutions. Now that makes that target much more harder for us, so these tactical controlled situations can be very difficult for us. I just want to make sure that we are differentiating the, the crux of our interest is say and I know that a couple of words came out, the several situations that he has seen is not associated with surface contacts.

WIT: Well, if I may, there is another thing that is important with surface contacts to. What is the sea state and the wave height and how much other surface contact density is around. What is the wave slap and things of that nature. Um, is the ship in--even if it is traveling in a straight course is it in and out of the water. Do the screws get in and out of the water, because it take a different type of, of detection. That should be to be perfectly honest with you, that should be simpler type of detection than the other things that I have talked about. It should be. It clearly should be.

MR. STRAUCH: But then again, I am asking about the interpretation rather than detection and what----

WIT: It should be easier to interpret. It should be a column or a noise that is being received by the hydrophones that is being processed by the system to say here is, here is a noise

line or spoke, as we sometimes call them, it is to say here is a contact.

LCDR SANTOMAURO: This is LCDR Santomauro. You also have to remember, we talked to all the sonar operators. You have to remember how surprised they were that any contact could get that close to them. And whether or not it was either one of the Sierra contacts that they were tracking or not, they were surprised. And so the data that they had available to them, somehow they misinterpreted it, they misinterpreted it or the data available to them to provide an accurate picture.

WIT: Had an incentive in it but didn't see it. But one other thing that I would like to say is. Did you guys talk about [garbled].

MR. STRAUCH: We did briefly. But we did before you were here.

WIT: You did. I hate to bring everybody else through it again, but I think that it is important aspect of the submarine or excuse me, the target is important. Sometimes targets in the stern when you are in the screws of them it is like that is a lot of noise and that is, is something that you can lock onto pretty easily. But if the ship is coming towards you and in and out of the water, because the size of the ship or because it was laying dead flat because it is a super tanker the way that the bow displaces the water and the sounds are mostly from the engineering spaces and auxiliary equipment. If the ship has a narrow aspect coming to you, whether it is another submarine submerged or surface ship that is a harder contact to discern and distinguish. Even if the processors were to pick it up as well as the people that analyze it, than if it is - - that’s why we are always talking about the other guys baffles. You know the submarines always talk about baffles. That is an area that is behind you where it is difficult for you to hear yourself, but gives the loudest signal for the person that is prosecuting you to hear. So your, your - - if I am back here, he got his sonars out here. It would be pretty tough for me to determine if he is back here. If you are out in front of him like this, because the noise sources are in the back, it is very difficult for you to pick him up in that narrow aspect of bow on situation to. And another, and I don’t know what the aspect is, I, I, obviously is was some form of closing aspect, but based upon what I looked at out the periscope it looked like I could reconstruct it and say, he was coming from this course. But as far as what all you have seen with regards to laid out and stuff like that I haven't seen it.

CDR CACCIVIO: This is CDR Caccivio. Maybe one of you guys can offer that information, because based upon the information that we had pictures that we observed this appeared to be a bow to bow type of contact which actually mitigate the sound signature in the water and all we have to go off of is the diagrams. I am not sure if any of your guys have even looked at the sister vessel or any of the video from last night be you would be able to offer any technical assistance.

MR. STRAUCH: You also mentioned inattention which of course would explain--that if somebody did miss something either or in detection or interpretation. Is it possible that on a routine kind of mission real close to the coast of Hawaii. Um, technicians and others would be less than attentive than they would be in any other environment or tactical environment?

WIT: Certainly it is possible. First I don't think that there is anything that is a routine mission being in submarine operations. And I don't want to say that to be, other than that we operate submarines more than in a routine fashion. Ah, this incident not withstanding. It is a dangerous business we know it. Taking something with a hundred and thirty some odd lives on it, submerging it, and returning it to the surface and brining it back into port is a, we try not we do exercises, quote unquote routine exercises and other things of that nature. But I just wanted for clarification purposes I don’t want anybody to think that there is anything that I think about submarine operations that is routine. Secondly ah, the attentiveness of those folks sure, I am amazed and that is the term I will use and stick by. That if we could have a sonar operator, another sonar operator, and a sonar supervisor and the XO in sonar that we can't see this. I got a lot of experience and it amazes me.

MR. STRAUCH: It amazes you because why?

WIT: Why? Why didn’t they see it. If it was there, why didn’t they see it. That is what they are trained to do.

MR. STRAUCH: Or they saw it and didn’t pay attention to it?

WIT: There is that possibility too, sir. Which either way it amazes me.

MR. STRAUCH: We will all try that.

WIT: Yes, sir.

MR. STRAUCH: Answer, answer the questions you know. But the inattention was not something you know, did you see any evidence of inattention when you were on the ship?

WIT: Did I notice any inattention while I was on the ship? No. No.

MR. STRAUCH: The FTOW said that he was not able to perform, forgive me if I am using the wrong word. Complete the CEP, complete, oh thank you----

CDR CACCIVIO: He said, he said that he was unable to maintain a contact evaluation plot.

MR. STRAUCH: Okay. Because the civilians were in his way. And given as a result of our tour yesterday that I know that I have a better understanding of it, of what he was talking about. Um, what should he have done in that case?

WIT: He should have first of all in a polite manner which wasn't tough for a twenty two year old or nineteen year old kid VIP's or maybe I am getting a sign so maybe he was older than that. But whatever----

LCDR SANTOMAURO: He was a very experienced FT of the watch. A first class petty officer with years of experience on submarines.

CDR CACCIVIO: I wish to clarify. He had twelve to fourteen years in.

WIT: Then it shouldn't nearly been that tough for him to say "hey I got my job to do, I am experienced, I know how to do this, please would you mind" nicely "would you mind moving aside and let me do my job here?"

MR. STRAUCH: Is it possible that because you were there maybe you can answer this. Is it possible that ah, there was no place for them to go and still be in the control room? Was it that crowded or was there any room?

WIT: No.

MR. STRAUCH: They couldn't move away.

WIT: No. And then again if that is the person who I think it was the fourteen year submarine experienced FT of the watch he is in a control room where we shoot tomahawk missiles when we are at battle stations for ah, for torpedoes and stuff like that and he knew what a crowded control room looks like. And he knows how to operate and get around that crap in the control room and ah, it shouldn't be something that he needs to be - - all he needs to be is some what differential to our guests, as anybody hopefully would be and just ask them "would you please step aside I need to, I need to do my work here". Now back to the original if is was a nineteen year old kid, who would have been onboard for less than a year, he is from Sioux City, Iowa and there is somebody the Captain and everybody else probably be a little bit tougher for him to ah, step up to the plate, but some of them do that to, no, not at all.

MR. STRAUCH: He was from Brooklyn?

CDR CACCIVIO: I think that he would have been brief sir and he would have knocked the guys out of the way.

WIT: Yeah. Very good. Very good.

MR. STRAUCH: Um, was being that he did not do that. Should have anybody else on the control room noticed it and said something about it?

WIT: Absolutely.

MR. STRAUCH: Who what have that person had done?

WIT: Well first of all you would like to think that ah, the officer of the deck would have looked at the contact evaluation plot and know that it was lacking or not being kept. And especially with the ASVDU and this is you know, you are telling things that I don't know. Do you understand that. In the cold light of day I mean, you know, you know with the ASVDU being out, out of service the XO in sonar and things like that I would have thought that both the CO and the officer of the deck would have put a little more stock in ah, in what that plot was. Now to be fair I don't know the exact particular of that fire control system but you can get a contact geographic evaluation plot not in the same form that he plots it that way, but you can get a geographical situation display electronically in the fire control system which would show you based upon if the contact is being tracked from sonar and if there is some form of a bearing to it that geographically looking at the world and seeing, you

will see that there is a contact here and a contact there. And you should be able to look at that also. And determine that from both the FT of the watch and the officer of the deck will be able to ascertain.

MR. STRAUCH: Because the ASVDU was out or was not operating. What kind of information would have the CEP have provided and how valuable would that information have been to provide a picture of what was going on?

WIT: CEP is a great plot. We have been using it since mariners have gone to sea I think. You have three hundred and sixty degrees and here is a bearing, here is a bearing to that contact. You come back to it a couple of minutes later and you put another plot on it. And it tells you that (a) you have a contact and you know what its bearing is and in time it tells you the bearing drift, which way is he drawing right, left, or zero.

MR. STRAUCH: So it is some kind of historical record of sonar contacts?

WIT: Manual, sure. And you saw it yesterday, you know which I, and we are getting point of some of our acoustic rapid constant things are giving us automatic plotting so the kid can spend more time on and you are cognizant of that doctor, and so the kid can spend more time analyzing rather than just being a plotter.

MR. STRAUCH: If the GREENEVILLE would have the same automated CEP that the CHARLOTTE had would the FTOW had to have moved or asked the people to move to put that data up there?

WIT: No. But he would have had to move or have the people move to analyze the data, as would the officer of the deck.

MR. STRAUCH: But the difference is that data would have been there for him to analyzing?

WIT: Without having to physically plot.

MR. STRAUCH: So he would not had to have left his station in order for the data to be there had the automated system been on there?

WIT: Yes, sir.

MR. STRAUCH: So whether or not the people were there with the automated system if would not have made a difference in his ability to ah, to at least visualize the data?

WIT: Yes, sir. But if I may plug the United States Navy Submarine Force, that is why we are working in the direction of using the technology automation to try to update you know, systems so they are not manual labor intense and more analysis and less grunt work plotting.

MR. STRAUCH: Ah, that goes to my next point. I guess understand the physical restraints that we all face. It does seen kind of and it is really awe inspiring the sophisticated weapons system of the GREENEVILLE relied on somebody moving a couple of feet to putting a little dots on a piece of paper and that's one of the sources of information that the ship's officers have. To know whether or not if it was say ascent in a high traffic area.

WIT: Yes sir, I agree. But the other side of it is we have to have those people capable of doing that because you get out there for along ways away you know, and things break and we can't call the 1-800 Gateway number or whatever is and that isn't always successful either you know. But ah, we have to be able to have that capability and so even if one of our, forget the technology and the finances you still have that basic if you will human discussion. How far do we automate so that we can still be reliable and safe when something fails and those kids still have to know the basics and do the basics and some of the other people would say "they don't want to get all automated, because they can have that automated processing and understand it in the event the system fails and we will still be safe.

MR. STRAUCH: And you are saying that in order to maintain an effective system you can automate it, people operate automated systems, but would still have to perform manually if the automated system should fail?

WIT: Yes, sir.

MR. STRAUCH: But given that there were no automated systems to being with for the CEP----

CDR CACCIVIO: Correction. Correction. No see. This is CDR Caccivio. Let's go back to our discussion of the Fire Control Technician of the Watch the other day and I asked "where are the tack three was and why wasn't it operating". The plots that the

Captain is referring to we are going to be talking about some ship alts here now. He----

WIT: Ship alterations.

CDR CACCIVIO: Ship alterations?

WIT: Ship alterations. That is how we upgrade.

CDR CACCIVIO: Basically it just means that we alter the ship to put a new appliance on for technical capability or whatever. Um, basically this manual plots that when we started and when Jim was doing it, well back then he had the same plots. I would venture to say that he had a CEP in front of him, okay. When he was on a submarine. These manual plots have been integrated into an electronic format. Into various programs. These programs are part of what is called ship's mission, SMFLPO, Ship's Missions Full Library, which is resident on the tack, the computer that I referred to as the tack three computer. Sometimes there is a tack four, it is just a division of it. Basically it just means how big of a processor do I have. This computer is the one that I pointed out in the aft end of control. These software programs will create a CEP, will create a time bearing plot, will create a GEO plot, all the plots that I have shown you that have been sitting on the table the last twenty four hours, okay. This is why I asked the FTOW, when he could not maintain the CEP manual plot that was in the forward end of control. Did he use the SFMP program that was available to him in the aft end of control where he indicated that there wasn't a large crowd standing, nor would I expect to see much from back there. Now because we put and when you think about it your computer screen looked like that right there, probably a thirteen to fourteen inch monitor. Now what I am doing is taking plots that are electronically this big, four of them and giving you electronic versions. It is very difficult to take all of those windows and scale them down and put them on a screen like that and make them usable to an operator as he clicks on one pane to another to look at them. So what we have done is that we have taken the individual programs, we go into the forward combat systems electronics space, we put in another tack three computer to power additional plots, big flat screens panel. Now on the ship we allow you to run an automated CEP on a big flat screen panel. So you are not trying to look at them on one screen. The advantage to this is that the Captain indicated is now to often with phone communications and guys trying to manually plot it the real data doesn't even get there. So you have eliminated that portion, the data gets on the plot,

colors are right, all Sierra thirteen is always the same color, all Sierra fourteen is the same colors, visual integration and interpretation of this data is now brought to its peak efficiency. Now the operator is only left with one aspect scenario which is the interpretation scenario. Automating that process is something that we can't, we have not been able to achieve, remember is all fits on a three hundred and fifty two foot vessel down there. So just because Hewlett Packard Unisys and Craig can crunch big numbers doesn't mean that they can crunch it in that big submarine down there, you know. Okay. So but keep in mind when you said that it wasn't available those programs were available in the tact three and that is data that the Newark engineers for the last three days having trying to extract from the hard drives because it was going in but some of the resident files were not being updated and the data was not being processed electronically by that computer, so therefore no systems solutions were stowed.

WIT: If I may, one other thing that is important along those lines. Number of people and size, John reminded me when he pointed to the screen over there. You stood on control yesterday on that submarine and you looked and I don't know if you tried to look at that screen and I don't have how good your eyes are, but there are another recognition differential thing with regards to how much backup. So many of those things you saw on that screen even in color they are packaged in pretty standard CRT screen. You stand based on how old you are and how good your eyes are. You stand away from it and when is it that you can no longer see the information on it. The old idea about digital vice analog gauges you know, in order to tell what time it is you can glance and know within something you know, what the time is if you have a digital clock, you physically have to read the dial the numbers to get what time it is. This idea of however you process data has either the officer of the deck or commanding officer or FTOW or sonar sup is somewhat dependent upon that information exchange and it is supposed to display also break - - we are talking on a separate subject now. Ah, the idea that numbers of people in control if that really becomes an issue I really would suggest that back down to the ship and kick the tires again. Have a ship show you in battle stations, tomahawk missile with torpedo and watch the people that are in control that operate that ship. And then do it at night. Because that was the other time that we showed you where is was black. Then do it at night. First man some people up. So this idea that submarine sailors are not customary or accustomed to dealing in compact places with people adjacent to them and still getting the job done, I think whatever comes out

of this, comes out. But the idea that we probably are more accustomed to doing our job in a compact space just because of the habitability that we live in all the time.

CDR CACCIVIO: This is CDR Caccivio. Just for verification because you weren't here doing the boat tour. Ah, when we were down there we, the maintenance guys from all those organizations. Everybody was down there testing gear, NTSB was down there, we were down there, we asked the crew at that time whether the number in control was equal to, less than, or equal to what it was like when they did the EBT blow. It was roughly the same order of magnitude. We asked them if they felt if it was more or less and when they were at battle stations and if I remember correctly they said it was not as cramped as battle stations.

MR. STRAUCH: I guess the point that I was getting at was, it, ah, the accident happened eighteen thousand yards from the coast of, what was it close to, Oahu?

WIT: Yeah, give or take a hundred yards.

MR. STRAUCH: Is that considered a crowded area in terms of surface vessels um, moderate,?

WIT: Ah, it's, it's a fair and very good question. Um, not that I should analyze but just in my mind. You know, you go off and ah, and the English Channel going into Rotterdam, this is ah, this is Sunday afternoon late in the park with nobody around. Or straits of Tokyo Wang or the straits of Singapore or you know those types of things. In and out of San Francisco, going in and out of Seattle. This is, this is not much traffic at all. Is it more traffic nine miles off the coast of Oahu than you would see fifty miles off the coast of Oahu? Absolutely. Absolutely, because people converge and going in different directions and there is not as much small boats and pleasure boats around and things of that nature. Yeah, but that's, that's and again that it is relative. I think that it was a heavy shipping density environment? Absolutely not. Absolutely not. If there were a couple of contacts on the sonar displays that is a very, very light of event from the standpoint that factors, recognition, and attentiveness and all of those things. No, you could be over loaded with sonar contacts in a very complex, high shipping density areas, where you are doing ah, contact triage would be the term, this quadrant that we have over here as got a bunch of contacts but they are fishing trawlers staying in that area and we kind of that they are over

there and what's over here and that type of thing. Not a high shipping density area.

MR. STRAUCH: Okay. So you would not consider it a high complex shipping area?

WIT: No. Not by the standards that we are used to operating in and what we expect people to operate in.

MR. STRAUCH: In 1989 when the HOUSTON accident occurred were you in the submarine service?

WIT: Yes, I was.

MR. STRAUCH: Would you have been in a position to see any changes or tactics, or training procedures? Ah, since the 1989 accident?

WIT: Clearly. I was a CO from 1989 to 92, had my own ship. I was a squadron commander for a year. In 97 I guess it was or something of that nature. Yes.

MR. STRAUCH: What changes have you seen? Um, in tactics, procedures, and so on from the result of that accident?

WIT: I can't trace them directly from the result of that accident. I can tell you that tactics, training, and procedures, regarding the incorporation of what we have already discussed of processing, to help us both present information or easier in a timely manner, recognition recognizable by the operators based on the technology of the past decade. Clearly that is something that has enhanced our ability to discern things. I think that all the processing improved, the computer processing has allowed us to gather more information then what we used to be able to gather and process that more in a timely manner. I think that those technology processing is clearly something that has changed since 1989 that would allow us to do that and that is incremental over time. We can't stop the summarize force and put them all on hundred percent right now. People that have the capabilities and skills to do that. There are only certain companies that can do that incrementally. So, one ship - - and there are other factors on ship may be decommissioning from a year from now we probably aren't going to take those resources and money to put it on a ship that is going to be decommissioning so you may find a ship or two that is going to have some of the older processing on it that will serve as a useful purpose for the last year of its life. That is one.

Training, we are always working the training aspect of it and, and trying to incorporate the newer processing and the newer technology information for emissions that we have to incorporate that into the training of our people to do that and if I may, I have witnessed the ah, it is interesting to see the young folks that I think from a human aspect that this is interesting kind of thing, because the older people have been around and we kind of remember what it was when it was really old. And you see the young kids come onboard and you say "hey you promised me that you were going to let me drive this nuclear technological marvel and you know my play station two has a more interactive processing capability from what you show me here". They don't understand what the process is. Not what the process is, but this is just not a matter of going down to the local Radio Shack and putting it on your submarine.

MR. STRAUCH: I um,----

WIT: We try to make it that way we are working on it----

CDR CACCIVIO: We really are. That is our big focus. Trying to capture as much cod space you know, go look at a game and figure what we can get out of it. You know, if it meets our purpose then let's try and do it.

MR. STRAUCH: I understand that a lot as happened with technology since 1989 and I, I and training has changed also. Um, but is there anyone thing or any specific change that you can identify that occurred because ah, people in Navy power or pretty high level said well this accident in 1989 occurred and this is what we are going to do differently now to prevent this accident from reoccurring?

WIT: Cause and effect from the results of the major findings of the HOUSTON accident with the tug in 1989?

MR. STRAUCH: Yes, sir.

CDR CACCIVIO: This is CDR Caccivio. That might be a little difficult question to ask. You have the benefit of having the studied results with you, I have been through the questions that have been referred in the news, the three items the Navy was identifying on, but um, with there was other things on that list that would probably be really be fair that we go through and review that list and see what you are referring to. I mean there may, we may have changed policy on the same time or within the same window that may have not associated with that event. I

don't recall from what I was reading that there was any specific strategically tactical procedures that were identified as deficient that would warrant changing based on that collision.

LCDR SANTOMAURO: This is LCDR Santomauro. I think, I think we answered that question yesterday when we talked you know the major recommendation was that active sonar and I think that CDR Caccivio went, you know "we are no longer in the cold war' and he explained all the issues surrounding that one recommendation---

WIT: Actually let me take a swing at it. No, no, there are a couple of things here that are very important. Our communication ability is much better than it was ten years ago. In our ability to get a hold of people based upon technology that we haven't talked about. Not communication of active, passive sonar, but pick up the phone and talk to somebody. Now sir, with all due respect, was that because of the National Transportation Safety Board saying that we couldn't timely report to the Coast Guard and that we needed to improve that, probably not. But boy a direct spin off of that is that we can more quickly make communications with the Coast Guard. The area, I think that the other one was crew rest, crew tiredness, and things of that nature. I can actively tell you and honestly tell you that through the past five years especially the past three years we have worked the fannies off in ah, environment where the total employment of the entire country - - or the unemployment was very low to attract and get the best qualified people that we can to operate this ships and try to not lower our standards so that we wouldn't have problems or accidents or things of that nature. And, and having types of those people through funding. Also those people bring through their own concerns of what their expectations are. It is a hard working business that we are in. These kids work hard and we have worked hard for all the thirty some years that I have been in this business. Those people don't like going to sea for six months at a time. Those people don't like the idea of having duty once every three or four nights in port. So what we have tried to do is get more people with a little bit higher pay, spread out the duty arrangements, shorten the time that they are assigned to sea so that they can have more of a family life and all of those are human factors to me that come into the OOD, that come into the business of being tired, being tired. Do we have three section watch bills for the most part on the submarines vice four which is probably what we had on HOUSTON, yeah. We try to get four. We try to even get better than that underway and in port try to even get better than that. I know

that we have much less port and starboard watches than we had before because we used to say that the mission would overcome all and we would just take it out on the hide of the sailor and we don't do that anymore. We balance the human factors and the mission factors into whether we accept the job to do or not. We are told this is what you are going to do and we will move whatever mountains and whatever hell or high water to do it. But for the most part there has been a cognitive change, all be it slow and in a direction that people are just that more important and you can't just use people like a tool and throw them away. Cognitive changes. Now in regard to the first one that is the active sonar issue. We've discussed that and those were the highlights. I will be honest with you, I got those out of blurbs. I haven't read the whole report. I don't know whether if did you recommend whether this procedure particularly changed to reflect or whatever the case may be. I will tell one other thing that is, is in metamorphous change over time is this business on how we use the periscope. How we use the periscope, I think sir if I may, we have had periscopes since before time that you were on the submarines and looking out that periscope eighteen degrees, thirty two degrees wide we got things with ah, you know, with the ah, fiber optic, what is the scope, the non-penetrating periscope? Non-penetrating periscope. Platonic mast that we have worked on for at least the last six years. Where we examine the reliability of the electronics, the, the tough environment that it has to operate in meaning sea water, at a depth and everything else, the night and day environment that you saw on the ship. So everybody puts this great red screen up you are familiar from flight and everything like that. You got this great thing that you can see during the day, but you turn them on at night and the guy has to have night vision on. Sensors the idea of visual and photography and camera and things like that and display and how you can get that really, that's working, that's working. So I think that people work on it overtime sir, your particular answer I am not trying to make it to long, but you are looking for me to say that there is a, what I interpret it as a casual and effectual relationship and of you, of what you did and I can't tell you yes because of the three or six or twelve findings that we picked up on and checked that one off, checked that one off, checked that one off, checked that one off. I do feel corporately in training and in human factors and in communications and in processing and things like that we have moved in a direction that we are more capable of moving then we were ten years ago and ignore your recommendations along with everything else you have.

MR. STRAUCH: I have one last question. At least for now. Um, In the field of, of human error----

WIT: Yes, sir.

MR. STRAUCH: ----investigation, in the years that I have been doing it I have seen a change in the approach of human error ah, investigations. Away from focusing on the person who committed the error. Towards a more global system view of looking at the error. The point being that, as a result of the investigation um, the poor person who committed the error wouldn't be singled out and punished but rather the system would be changed. So that someone of equal training and experience like the person that committed the error won't be put in that position again the next time. It is a way of mitigating opportunities if you will. Um, when this is all said and done do you think that is what will happen and if so why?

CDR CACCIVIO: Is he asking you to speculate on the outcome?

WIT: I don't know.

CDR CACCIVIO: I don't think that would be appropriate.

WIT: I understand your question I think and I appreciate your input John and again I go back to ah, I have no reasons to doubt as I have told you earlier, I don't ever want to see that picture again for any other person. I don't want to see anybody whether a combination of errors that made that happen. It is wrong, it shouldn't have happened and whatever, whatever is culpable or not culpable or stuff like that if there is anything that we can do to make that infinitely small probability of a five hundred ton ship and a seven thousand ton ship coming together in any spot in the ocean and causing the problems that this has caused, it is worth the effort. There is no doubt about it. No doubt about it. Again I said that. We have a history of doing critiques and investigating how things go wrong. From thirty years of experience the history has changed. Your point is very valid. Too many times we would find the guilty culprit and just hang that sucker out and not ask ourselves the questions of "was he adequately trained, did he have enough rest, did he just have a fight with his spouse or girlfriend the night before, does he have financial problems, has he got all those things that caused him to be mentally or physically distracted from carrying out his official duties" and thereby it was an easy thing to do to say "you are out of here shipmate". We don't do that much anymore. But I don't think

that lessens ~~are~~ our standard of accountability in any way shape or form by doing that. We ask ourselves "are they trained" and if that person is individually responsible, he will be held accountable, but not to an extent that whatever the - - this is obviously a tragic situation with tremendous consequences with a very high level no question about it. But we have things were people operate valves incorrectly and all that happens is that we depressurize something for a couple of minutes and a supervisor goes back there and it then we go back the other way. That is not expectable in our business. We will find out why that happened. We will find out if how the person was trained to do that and we will ensure because peoples' lives are at stake at all the time on a submarine. And I don't want to mean that anybody else takes it--my son's life on a helicopter is at stake for how people do things. There are risks involved in everything in the end balance. But I think that we have taken a more both individually accountable view point when you find the person who isn't accountable and holding that person accountable through an appropriate level of accountability. Not for turning the valve and a little bit of water leaking. You are fired and sent to the brig and sent to jail for twenty years and have his life ruined. But there would be times in the past where you could wind up not in the brig, but you could wind up with tremendous consequences for your career for what was really in the perspective of problems not, not having it done. So we kind of balanced that with here is where we need to go with regards to holding high standards and holding accountability, recognizing that there are other factors that enter into that. And making sure that if one of the findings is we didn't train this kid well enough that we better go back and fix the training pipeline that causes the kid not to be trained to handle that. What have we done to do that if we find out that the kid did not get enough rest. Who was the person that determined that this kid had to be here and do their job and that they didn't have enough rest. If we found out whatever the individual findings of the critiques are not only just hang him and get out of here and we move on that kid is all screwed up. What is the process that caused that kid to be all screwed up. The answer is, the answer is both and, and I think that it is an important and correct answer and it is a way that we as SUBPAC look at untoward instances within our own organization and have them critiqued and do incidents reports, look at how lessons learned are promulgated and stuff like that. And it is very important that it be an appropriate level of accountability not under or over, an appropriate level of accountability based upon experienced people look at it and not sweeping anything under the rug. Does that----

MR. STRAUCH: Yes, thank you.

LT JOHNSON: Captain, LT Johnson, and U.S. Coast Guard. Would you like to take----

WIT: I am good. I appreciated it. If you guys are all okay, I am fine.

LT JOHNSON: Anybody else would like to take a break?

WIT: Do you need one there, LT?

LT JOHNSON: No sir. I am fine sir. First of all Captain, I would like to express um, I have a sincere appreciation for the duties, what submarine sailors are called upon to do. And um, it is very hard at times environment. With the isolation and the different aspects of the job. I also have an appreciation for the professionalism of the sailors. I have been in the Navy/Coast Guard for over twenty-three years. I will say that unequivocally seaman, sailors, and officers that I have had the privilege to serve with wear dolphins on their chest. Some of the best-trained people. And I have a very deep respect for you and for the men that wear those dolphins and the gratitude to all the men that go out and do what they do. I wanted to express that.

WIT: On behalf of the submarine force, thank you very much.

LT JOHNSONS: Some of the best people that I have ever worked for and have had the privilege of knowing. Um, if I can Captain, I would like to go back to the actual day of February 9th when you were underway. I realize that we have gone quite a bit from that and take a minute just to get our thoughts in order. Um, specifically the time of the ah, the XO was ah, directed to go to sonar or asked to go to sonar I am, I am trying to get my own mind back into the picture here. Do you remember how, how that occurred? Was it a direct order from the captain to the XO?

WIT: No.

LT JOHNSON: It was just conversation?

WIT: Just conversation. XO I need you to go into sonar, XO go, you know something that made the person go from this position to that position----

LT JOHNSON: Sure.

WIT: You know it wasn't like that, you know that we don't run business that way. Yes, sir; no, sir; II, sir. Some sir; I have to be careful we do that but we are not as, as strict, I mean, XO go to sonar. Got it, I am on my way.

LT JOHNSON: Do you remember any specific tasking to the XO, go to sonar?

WIT: No, no.

LT JOHNSON: Okay. Did the captain - - - -

WIT: I didn't hear it. I didn't see anything. Distance and other people in the thing you know. If they did have a conversation about here are the specifics, I didn't hear them.

LT JOHNSON: Did you happen to over hear the officer of the deck to make a comment about taking waves over the periscope, wave slapping, or the scope going under water?

WIT: No. No. Nothing at all.

LT JOHNSON: Um, earlier you talked about the um, the vessel shuttering. It went to the surface and people that didn't do this for a living didn't know this. Would you characterize that shutter as to what a submarine may feel if shooting a torpedo or water slug, or wave slapping - - - -

WIT: Not at that level maybe a little bit more ah, ah, yeah, a little bit more. A little bit more.

LT JOHNSON: Okay.

WIT: What of the things that strikes me clearly to answer that question there. There was a young officer that made his way into control who wasn't in control when the, when the event occurred. The fact that young officer came to control with a quizzical look on his face you know, where ever that officer was on the ship at the time of the occurrence he, he also recognized, but he didn't come running in "wholly", or fear or that just wasn't right. That wasn't right what was that.

LT JOHNSON: Um, The life rafts are in the water, I am going to fast forward to a couple of questions here.

WIT: Okay.

LT JOHNSON: In our opinion given the sea state, the submarine is sitting at all stop, and the way the water was over the submarine. Did um, in your opinion was there a greater chance of injury to people or capsizing life rafts if they were all beside the submarine?

WIT: Absolutely.

LT JOHNSON: What would you have done to - - - -

WIT: Combination of the fact when you get the big break wall there with the swells depending upon which angle it is. If there was life rafts up along side and especially if you have, now let's put somebody along topside and you know that you have a high swell that picks up that life raft and deposits it on the top of the deck of the submarine and you gentlemen that are so professional in the Coast Guard I mean that, I admire that. That is a tough, tough business. Next thing you know you are just not dealing with people but you got the weight of everything and people are falling out of there and going every which way and whatever, no absolutely. It was clearly the fact that the Coast Guard was there in about an hour from where we were and as I said earlier there was no reason to exacerbate the situation by putting people topside and that is excellent. I hadn't thought of that particular aspect of it. It is an excellent example why we wouldn't do that.

LT JOHNSON: With the submarine sitting there without any way on and with the obvious sea state is the submarine going to bob - - - -

WIT: Yes.

LT JOHNSON: up and down like a quarter?

WIT: Absolutely.

LT JOHNSON: Does the effect of the submarine coming up a suction to pull it underneath?

WIT: Absolutely.

LT JOHNSON: And then when we come back down - - - -

WIT: Push it back out again and the wave over the top, either way. Absolutely. If I may. I have amplified this before, but I think that it is very important. I made a bunch of small boat transfers to a submarine based on my experience of going on and riding as a squadron commander or as other ships and stuff like that. This is nothing and I mean I am healthy and I know it is coming and I am ready and even in the smooth sea state sitting along side that submarine with your little combat rubber life raft type of thing, zodiac type of thing and you got that little rope ladder coming down the side of there. There is the other thing. I wasn't traumatized. I wasn't just my ship just didn't sink out from under me. And these people have been wet, been in the water, had their ship sink out from underneath them, and they are now safe in a, in a, small - - not a life boat and now we are supposed to save them from there. Some how I am going, and not knowing their status of injury that their some how going to magically make that leap of faith with the sub going up and down and crawl up the side of the submarine is to me, without to my grave. That is a much more dangerous evolution then the conditions that existed at the time. When they were out there and that would have exacerbated the situation not improved the situation by doing that.

LT JOHNSON: Um, there were some talk earlier once again about the submarine's radar system. The Beach fifteen system. To the best of your knowledge is that radar system and if this is classified please tell me, able of detecting a person in the water?

WIT: Not to the best of my knowledge and if the person had some type of radar reflective material that would have improved their capability of being detected. But that certainly is a very small contact for that radar to pick up and do that. It would be very difficult.

LT JOHNSON: Just for a moment I would like to defer to LCDR Santomauro here. This is your specialty is it not? Do you want your opinion on that if you can detect a swimmer, just a person in the water without a deflector?

LCDR SANTOMAURO: Without a deflector probably not.

LT JOHNSON: Thank you. Um, this one has already been answered. Um, just for clarification. People may not understand. If you would Captain, could you define your professional relationship with the commanding officer, chain of command wise, otherwise - - are you his boss, are you his boss' boss. boss', boss', boss?

WIT: Boss', boss' boss. His boss', boss', boss.

LT JOHNSON: Do you have any daily interaction - - - -

WIT: No.

LT JOHNSON: with CDR Waddle?

WIT: No. Neither with another CO other to call them occasionally or either social reminders or, or ah, or maybe you know, they owe the staff something in a report back. The XO has been contacted and things aren't going to the squadron commander. I don't. I mean I just don't. You just see them in passing, they come to meetings, and you talk to them and you greet them. There isn't any direct interaction. In port at all. When there are gone, you know, we send them messages and say here is a little lessons learned, hear is something to have an head's up for generated by the staff, but on a daily basis, no.

LT JOHNSON: I don't know if they still do it or not, but I know they used to route pictures of you gentlemen to the submarines and say to learn these faces and learn them well. These are our boss', boss', boss. Because it was that lack of knowing that face. Um, once again I had the search and rescue portion. I understand that you are onboard the vessel in this particular case. Did you make the same decision, suggestions, and offer the same support, absent the observations, the direct observations of the captain, because that is something that can only be done on scene. But did you pretty much provide the same type of support, suggestions, and decisions that you would have had you been back on shore and this same event happened and would come into play?

WIT: That is a real good question. The answer is clearly yes. Certain things the search and rescue and the search and rescue whether you are in Washington D.C. listening to it or whether you are on the scene, you know yes, yes.

LT JOHNSON: But you didn't do anything special because you happened to be out then you would have done had you been back?

WIT: I had communicated on the radio directly to make sure that there was clear from my prospective from what had transpired and I clearly made it clear in my mind's eye that we were as ready. You know there are three things. The thing that we have already

talked about over it was already cognitive in my mind that I did not think unless there were people in the water that was worth committing anybody to that from the ship's company because of all the situations that we had already described.

LT JOHNSON: Would that had been the same decision you would had made if you were back at the command?

WIT: I had better information and situational information out there then I would have had at the command post, so I would have asked the question, "are there people in the water and should we have people going in to get them". That would have been a clear question that I would have asked. That is the best way to answer it. Better situational awareness based on being there. And because that I was there I also had the idea of having people on the bridge that can look because I am familiar with thirty two degrees of visual from a periscope versus situational awareness of getting people up there quickly and is the ship cognitively okay , we went all through this.

LT JOHNSON: Um, this is just an estimation on your part. Do you have an feel for the percentage of submarine officers that actually achieve command? What is the percentage?

CDR CACCIVIO: He probably knows the exact percentage.

WIT: No, I would honestly in application that is a wonderful question and I think that is very important. Would you mind John. Reason being because John, oh yeah. From where do you want it. It is just like any other statistic. The kid who walks in the door at nuclear powered training command eighteen years earlier until the guy gets to the CO's pipeline. Oh, if it is a quarter, it is probably a lot.

LT JOHNSON: Less than twenty five percent of those people - - - -

WIT: Of those people who get trained initially are started in the pipeline wind up being CO's, do you John?

CDR CACCIVIO: Don’t number I don’t have. Probably I would say it's number down here.

WIT: Yeah, there is a combination of many reasons. People's fitness reports and they don’t get involved in the selection process. They decide to leave. They don’t want to do it. It is a very selective group. A very selective group.

LT JOHNSON: Kind of set apart those officers - - - -

WIT: Absolutely.

LT JOHNSON: those officers that achieve that - - - -

WIT: Absolutely.

LT JOHNSON: even senior submarine officers that for whatever the reason there are some that don't get picked for command - - - -

WIT: Absolutely.

LT JOHNSON: Those that do picked for command are set apart.

WIT: There is a process that we go through where; let's just talk about the command process for the moment, because there is a process for XO, there is a process for department head. I mean there is a process either way. But for the command process, you can be a serving XO and you will go through three annual looks one, two, and three, and not everybody just because you were a successful XO becomes to be a serving commanding officer. They will complete their tour as the executive officer and have just fine. Thank you very much, but it just doesn't guarantee that you are going to be a commanding officer.

LT JOHNSON: Were all commanding officers, executive officers prior to that?

WIT: Yes. All of them are department head prior to that.

LT JOHNSON: All executive officers are typically - - - -

WIT: Very good, very good.

LT JOHNSON: Up at the top?

WIT: Yes. You don't to get to be an executive officer without being a good department head.

LT JOHNSON: Um, I am looking and what I have in front of me for the record is just a form, I read the form number. BUPERS 1610, so that would be the form number for fitness reports. And I am noticing that there are numbers assigned to this report ranging from not observed on the far left, to 5.0 on the far right.

Where in this scale of not observed to five does the average naval officer usually fall in?

WIT: Somewhere around a 4.

LT JOHNSON: Around a 4?

WIT: Yep.

LT JOHNSON: And I am noticing that um, when you get an officer whose marks are pretty much down the 5 category. What kind of an officer are you talking about?

WIT: You are talking about a top notch performer.

LT JOHNONS: A top notch performer. And Captain - - - -

WIT: You have information there that I don't have.

LT JOHNSON: Can I hand the Captain a page of this, I would like to ask his opinion on one - - - -

WIT: There are privacy things there.

LT JOHNSON: Is there a privacy thing here?

MR. WOODY: There is a privacy thing?

MR. STRAUCH: If I may, this is Barry Strauch. The fact that he gave them to the board applies his permission for us to use this in the investigation.

LT JOHNSON: Sir, I would like and I am handing the Captain a page of the fitness report and particularly sir, I would like to call your attention to the very last comment in the bottom block there. If you could read that to the board?

WIT: Ah, it says "immediate promotion to Captain as in capitals, exceptional flag potential.

LT JOHNSON: Is that - - yes sir, thank you. That comment exceptional flag potential. Is that common on a Commander's fit rep? Is that common?

WIT: No.

LT JOHNSON: How often had you seen a comment such as that?

WIT: I, I don’t read everybody's commander's fitness reports. I can tell you on the ones that I have written personally. Ah, very infrequently.

LT JOHNSON: So this is certainly a comment that is attributed to an exceptional officer in your opinion?

WIT: Yes. Yes, that is not a - - I have sat on many selection boards and have reviewed selection board's records that is a bullet that causes people to go "um". But then from the human factor and standpoint sir, also depends on who wrote it and how well you know the person that wrote it. That's ah, so I mean that is taken into consideration too. I mean if the guy writes that about everybody, but that isn't something that is written about everybody. But if he does write it about everybody then minimum value. But if it is used in this context that is not normal to see.

LT JOHNSON: I have never seen or heard it. That is all the questions that I have. Thank you sir.

WIT: Okay, thank you.

LCDR SANTOMAURO: This is LCDR Santomauro. Anybody need to take a break. Okay, break.

[BREAK TAKEN – TAPE 4 OF 4 BEGINS HERE,
NOT TRANSCRIBED IN HAWAII]